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Spiders (Arachnida: Aranei) of Azerbaijan. 5. Faunistic review of the funnel-web spiders (Agelenidae) with the description of new genus and species

Пауки (Arachnida: Aranei) Азербайджана. 5. Фаунистический обзор пауков-воронкопрядов (Agelenidae) с описанием нового рода и новых видов

Elchin F. Guseinov[1], Yuri M. Marusik[2] & Seppo Koponen[3]
Э.Ф. Гусейнов[1], Ю.М. Марусик[2] и С. Копонен[3]

[1]Institute of Zoology, block 504, passage 1128, Baku 370073 Azerbaijan. Email: elchin-f@artel.net.az
Институт зоологии АН Азербайджана, квартал 504, проезд 1128, Баку 370073 Азербайджан.
[2]Institute for Biological Problems of the North, Portovaya Str. 18, Magadan 685000 Russia. Email: yurmar@mail.ru
Институт биологических проблем Севера, ДВО РАН, ул. Портовая 18, Магадан 685000 Россия.
[3] Zoological Museum, University of Turku, FI-20014 Turku Finland. Email: sepkopo@utu.fi

KEY WORDS: Aranei, Agelenidae, funnel spiders, Caucasus, Azerbaijan, new records, new species, new genus, new combination.

КЛЮЧЕВЫЕ СЛОВА: Aranei, Agelenidae, пауки-воронкопряды, Кавказ, Азербайджан, новые находки, новые виды, новый род, новая комбинация.

ABSTRACT. One new genus *Azerithonica* gen.n. and 14 new species from Azerbaijan are described: *Agelescape caucasica* sp.n. (♀), *A. dunini* sp.n. (♂♀), *A. levyi* sp.n. (♂), *A. talyshica* sp.n. (♀), *Azerithonica hyrcanica* sp.n. (♂♀, generotype), *Malthonica lehtineni* sp.n. (♂), *M. lenkoranica* sp.n. (♂♀), *M. nakhchivanica* sp.n. (♂♀), *M. pseudolyncea* sp.n. (♂♀), *Tegenaria adomestica* sp.n. (♀), *T. ismaillensis* sp.n. (♀), *T. halidi* sp.n. (♂♀), *T. talyshica* sp.n. (♀) and *T. zagatalensis* sp.n. (S). The following new combinations have been established: *Malthonica aliquoi* (Brignoli, 1971) comb.n., *M. anchela* (Brignoli, 1972) comb.n., *M. annulata* (Kulczynski, 1912) comb.n., *M. argaeica* (Nosek, 1905) comb.n., *M. campestris* (C. L. Koch, 1834) comb.n., *M. dalmatica* (Kulczynski, 1906) comb.n., *M. eleonorae* (Brignoli, 1974) comb.n., *M. epacris* (Levy, 1996) comb.n., *M. ferruginea* (Panzer, 1804) comb.n., *M. lyncea* (Brignoli, 1978) comb.n., *M. maronita* (Simon, 1873) comb.n., *M. mediterranea* (Levy, 1996) comb.n., *M. montana* (Deltshev, 1993) comb.n., *M. nemorosa* (Simon, 1916) comb.n., *M. pagana* (C.L. Koch, 1840) comb.n., *M. parvula* (Thorell, 1875) comb.n., *M. pasquinii* (Brignoli, 1978) comb.n., *M. picta* (Simon, 1870) comb.n., *M. rilaensis* (Deltshev, 1993) comb.n., *M. sbordonii* (Brignoli, 1971) comb.n., *M. silvestris* (L. Koch, 1872) comb.n., *M. soriculata* (Simon, 1873) comb.n., *M. tyrrhenica* (Dalmas, 1922) comb.n., *M. vallei* (Brignoli, 1972) comb.n., *M. vomeroi* (Brignoli, 1977) comb.n., all ex *Tegenaria*. One species, *Malthonica lyncea,* is reported for the first time for the fauna of the former Soviet Union. In addition to new species three other species are illustrated: *Agelena labyrinthica* (Clerck, 1757) (♂), *Malthonica lyncea* (Brignoli, 1978) (♂♀), *Tegenaria domestica* (Clerck, 1757) (♂♀). Revised fauna of Azerbaijan encompass 19 species from 5 genera.

РЕЗЮМЕ. Из Азербайджана описаны один род *Azerithonica* gen.n. и 14 новых видов: *Agelescape caucasica* sp.n. (♀), *A. dunini* sp.n. (♂♀), *A. levyi* sp.n. (♂), *A. talyshica* sp.n. (♀), *Azerithonica hyrcanica* sp.n. (♂♀, типовой вид), *Malthonica lehtineni* sp.n. (♂), *M. lenkoranica* sp.n. (♂♀), *M. nakhchivanica* sp.n. (♂♀), *M. pseudolyncea* sp.n. (♂♀), *Tegenaria adomestica* sp.n. (♀), *Tegenaria halidi* sp.n. (♂♀), *T. ismaillensis* sp.n. (♀), *T. talyshica* sp.n. (♀), *T. zagatalensis* sp.n. (S). Предложено 25 новых комбинаций. В дополнение к новым видам, проиллюстрированы *Agelena labyrinthica* (Clerck, 1757) (♂), *Malthonica lyncea* (Brignoli, 1978) (♂♀) и *Tegenaria domestica* (Clerck, 1757) (♂♀). *Malthonica lyncea* впервые отмечается в фауне бывшего Советского Союза. В результате ревизии в фауне республики выявлено 19 видов.

Introduction

Agelenidae is a large family of spiders including 42 genera with about half thousand species [Platnick,

2004]. In the fauna of the former Soviet Union this family is represented by 28 species from 5 genera [Mikhailov, 1997, excluding Coelotinae]. Of them 13 species from 4 genera have been reported from Caucasus [Marusik & Guseinov, 2003].

The first agelenid species were reported from Azerbaijan by Werzbitzky [1902] who listed *Tegenaria derhamii* (= *T. domestica* (Clerck, 1757)) and *Agelena labyrinthica* (Clerck, 1757) in his catalogue of Caucasian spiders. Over sixty years later Atakishiev [1969] recorded one more agelenid for Azerbaijan (*A. gracilens* C.L.Koch, 1841). Dunin [1989] reported four additional species of *Tegenaria* Latreille, 1804 from Azerbaijanian part of Caucasus Major. Ten years later Guseinov [1999] added three agelenid species to the fauna of the republic. One of these belonged to *Agelescape* Levy, 1996, a new genus for Azerbaijan. Recently forth agelenid genus (*Lycosoides* Lucas, 1846) was reported from Azerbaijan [Marusik & Guseinov, 2003]. Thus, up to the date, 11 species from 4 genera were known from Azerbaijan.

Two our joint trips (EG & YM) in Azerbaijan in 2001 and 2003 revealed many additional species with uncertain specific and even generic belonging and therefore we decided to make faunistic and taxonomic review of the funnel spiders of Azerbaijan. Here we present results of the study of material collected during last few years by first and second authors combined with a critical survey of some museum material and literature data.

Material and Methods

Major part of the material treated herein was collected by EG and YM. Although some of material belongs to Dunin's collection stored in ZMMU, and some specimens were collected by Halid A. Aliev.

Illustrations were made using both reflecting and transmitting light microscope with drawing "devices". Microphotographs were made by SEM Jeol JSM-5200 in the Zoological Museum, University of Turku.

All species surveys are supplied with references to appropriate identification sources and in most of cases to our original illustrations.

Material treated herein was shared between Zoological Museum, University of Turku (main collection — ZMT and YM temporary collection — YMT), Zoological Museum of Moscow State University (ZMMU) and Institute of Zoology, Baku (IZBA).

The following abbreviations of morphological terms have been used:

Eyes

AME — anterior median eyes
PLE — posterior lateral eyes
PME — posterior median eyes

Male palp

Cf — flap of conductor
Co — conductor
Cp — prolateral arm of conductor
Ct — tip of conductor
Cs — stem of conductor
Eb — embolic apophysis
Em — embolus
Eo — outgrowth of embolus
Et — tip of embolus
Ew — transparent part in the base of embolus
Ma — median apophysis
Pa — patellar apophysis
Ra — retrolateral tibial apophysis
Rv — retroventral tibial apophysis
Ta — tegular apophysis

Epigyne

Aa — accessorial arm
Ag — accessorial gland
Br — basal receptaculum
Ee — extension of epigynal median plate
Eo — epigynal opening
Mp — median plate
Ni — nipple
No — nipple-like outgrowth
Rt — receptaculum's tube
Sc — scape
Sd — sclerotised duct
Sf — fovea of the scape
Sr — sac of receptaculum
Td — transparent duct
Tr — terminal receptaculum

All measurements are given in mm.

Species survey

Agelena Walckenaer, 1805

Agelena is the second largest genus in the family. It encompasses 75 species distributed in Old World: Palaearctic, Africa and South East Asia [Platnick, 2004]. Judging from the shape of copulatory organs it seems that genus is polyphyletic and should be split into several genera.

Agelena labyrinthica (Clerck, 1757)
Figs 17–21.

[de Blauwe, 1980: f. 20–25; Roberts, 1995: 241, f.; Levy, 1996: f. 9–13; Roberts, 1998: 259, f.].

MATERIAL. 1 ♂ (IZBA) CE Azerbaijan, Absheron Pen., Baku, building of Institute of Zoology, 13.07.1994 (H.Aliev); 1 ♂, 5 ♀♀ (IZBA) NE Azerbaijan, Gusar Dist., Dogguzul locality, 2000 m, 05.08.2001 (EFG); 4 ♀♀ (IZBA) same Dist., env. of Laza Vill., 1800 m, 06.08.2001 (EFG).

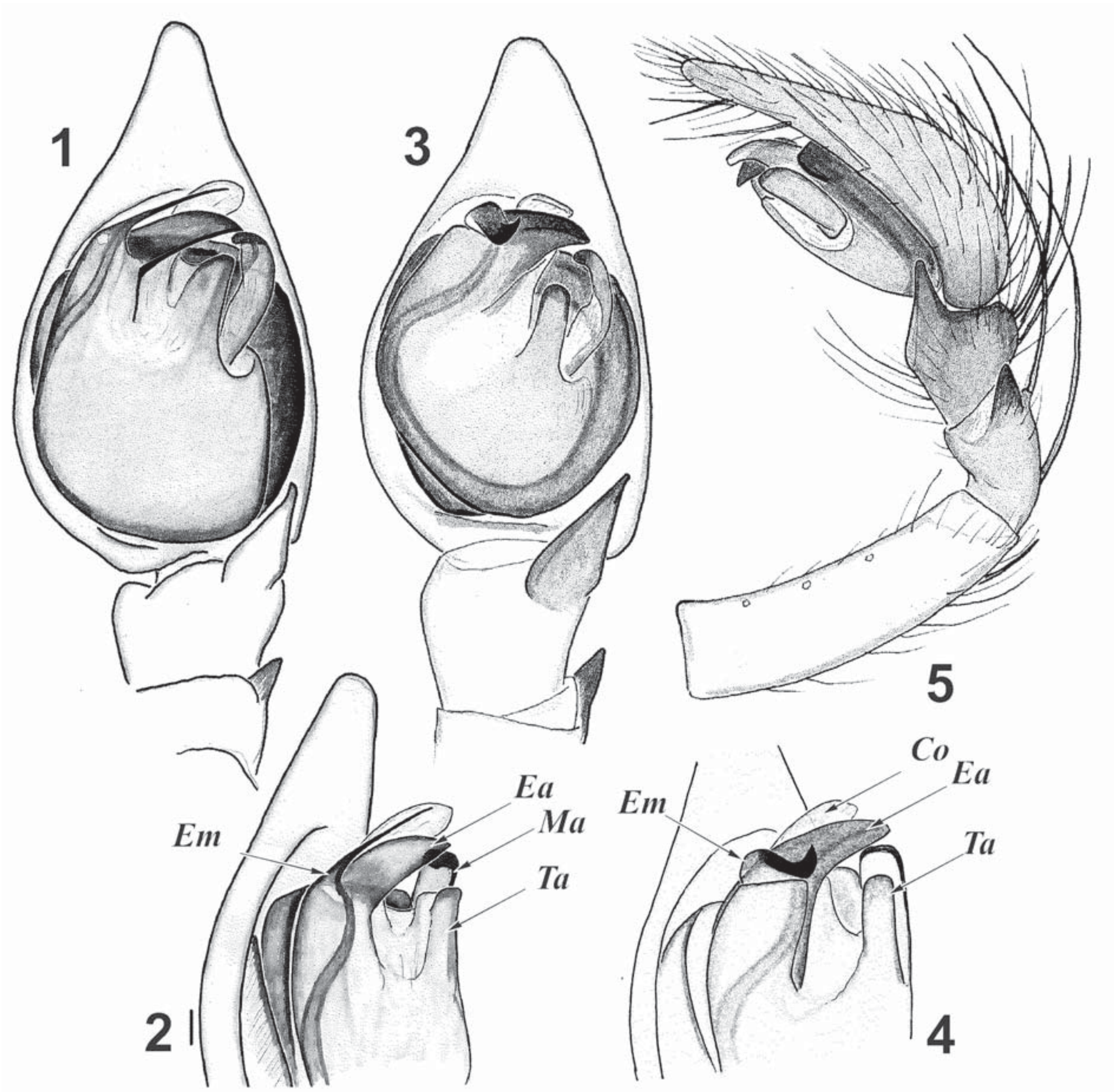
RECORDS. Gusar Dist. (Gusar) [Werzbitzky, 1902], Azerbaijan (no exact locality) [Bogachev, 1951], Sheki-Zagatala area [Atakishiev, 1969; Dunin, 1989], Absheron Pen. [Dunin, 1984], Muganskaya steppe [Dunin & Mamedov, 1992].

DISTRIBUTION. This species has trans-Palaearctic range [Marusik et al., 2000]. In Azerbaijan it is common in Caucasus Major and Kura-Arax lowland.

Agelena orientalis C.L.Koch, 1841.

[de Blauwe, 1980b: f. 26–29; Levy, 1996: f. 4–8].

MATERIAL. 2 ♀♀ (IZBA) SE Azerbaijan, Lerik Dist., env. of Lyalyakeran Vill., 1600 m, 23.08.1995 (EFG); 1 ♀ (ZMMU) SE Azerbaijan, Lerik Dist., env. of Lerik Town, 27.07.1976 (PMD); 1 ♀ (YMT) SE Azerbaijan, Lenkoran Dist., env. of Avrora Vill., 21.05.2003 (YMM).



Figs 1–5. Male palp of *Agelescape dunini* sp.n. (1, 2) and *A. levyi* sp.n. (3–5): 1, 3 — ventral view; 2, 4 — terminal part of bulbus, ventro-prolateral view; 5 — retrolateral view. Scale 0.1 mm.

Рис. 1–5. Пальпа ♂ *Agelescape dunini* sp.n. (1, 2) и *A. levyi* sp.n. (3–5): 1, 3 — снизу; 2, 4 — верхняя половина бульбуса, снизу-спереди; 5 — сбоку-сзади. Масштаб 0,1 mm.

RECORDS. Lenkoran area [Guseinov, 1999].

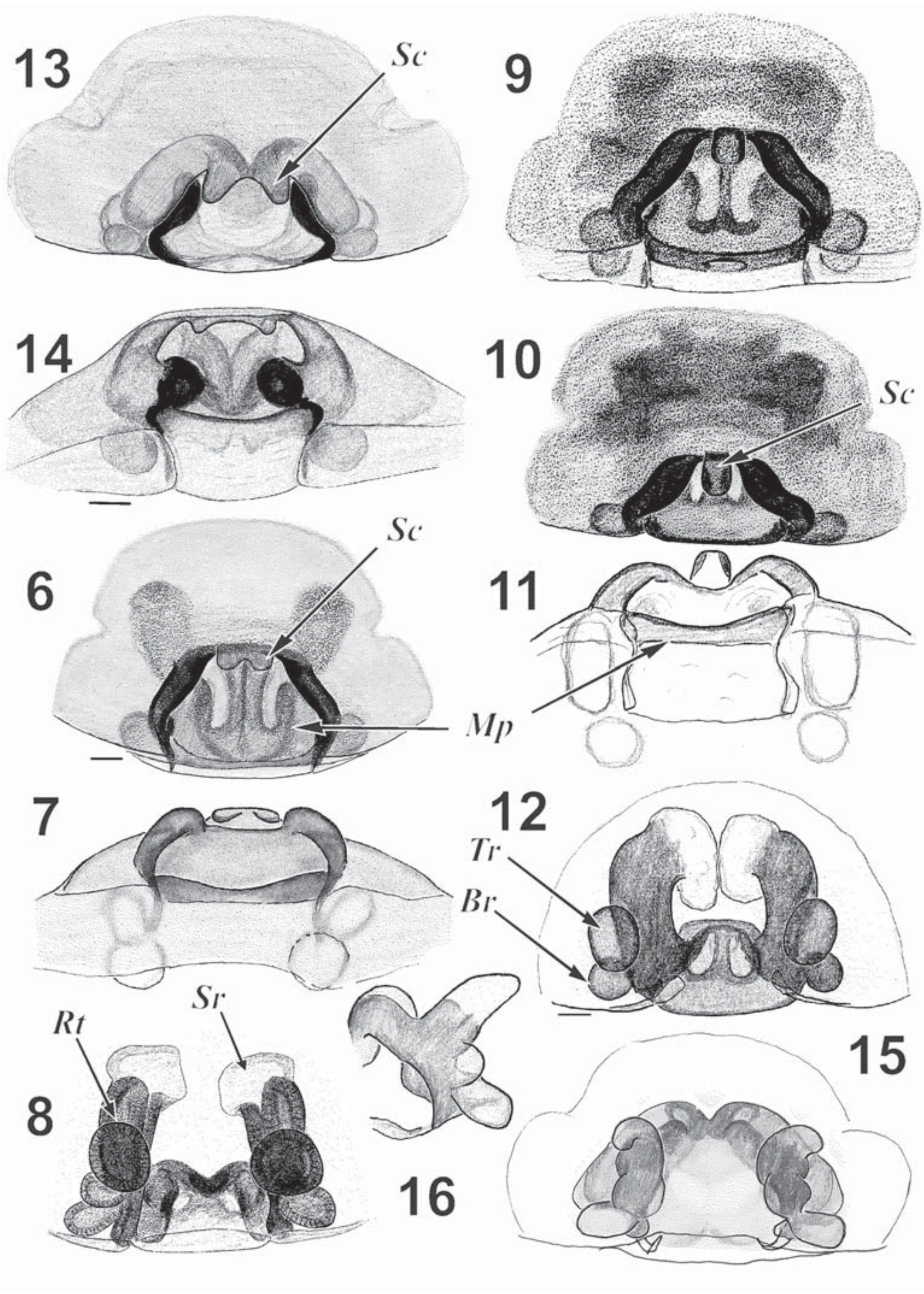
DISTRIBUTION. Mediterranean to Central Asia. In Azerbaijan this species is common in Talysh Mountains and Lenkoran lowland where it is probably an ecological vicariant of *A. labyrinthica*.

Agelescape Levy, 1996

Recently established genus *Agelescape* encompasses, according to the Platnick's catalogue [2004], three species distributed exclusively in Mediterranean. Although one of species, *A. affinis* (Kulczynski, 1911), was recorded from Azerbaijan [Guseinov, 1999] it was treated in *Agelena* and genus *Agelescape* was reported for the first time in Azerbaijan and in whole former Soviet Union by Marusik & Guseinov [2003].

Males of *Agelescape* can be easily separated from these in *Agelena s. stricto* by having only one tibial apophysis, namely retroventral apophysis (2 in *Agelena*: Fig. 21), lamella-like conductor (complicated 3 armed conductor in *Agelena*), distinct tegular apophysis (no in *Agelena*), short or spine-like embolus without free and hanging embolic base (thick, slightly twisted embolus with free hanging bulky basal outgrowth in *Agelena*). Females of *Agelescape* are easily recognizable by having scape and two pairs of round or oval receptacula.

It is worth mentioning that four species living in Azerbaijan and several undescribed species from adjacent Iran most probably represent a separate genus. It differs from *A.*



Figs 6–16. Epigyne of *Agelescape dunini* sp.n. (6–8), *A. caucasica* sp.n. (9–12) and *A. talyshica* sp.n. (13–16): 6, 9, 13 — ventral view; 7, 11, 14 — view from behind; 8, 12, 15 — dorsal view; 10 — ventro-frontal view; 16 — receptaculum, meso-lateral view. Scale 0.1 мм.

Рис. 6–16. Эпигина *Agelescape dunini* sp.n. (6–8), *A. caucasica* sp.n. (9–12) и *A. talyshica* sp.n. (13–16): 6, 9, 13 — снизу; 7, 11, 14 — сзади; 8, 12, 15 — сверху; 10 — снизу-спереди; 16 — рецептакула. Масштаб 0,1 мм.

livida (Simon, 1875), the generotype of *Agelescape* [cf. Levy, 1996, Figs 14–19], by having one palpal sclerite more (lamellate conductor or embolic apophysis, homology uncertain), lack of ducts in vulva and presence of two pairs of round receptacula.

This problem will be considered in separate paper dealing with Iranian Agelenidae in comparison with material on *A. affinis* and closely related *A. livida* (Simon, 1875) from Israel. In present paper we consider all scape-possessing Agelenini as belonging to *Agelescape*.



Figs 17–20. Male palp of *Agelena labyrinthica* (Clerck) (from Tuva): 17 — ventral view; 18 — retrolateral view; 19 — prolateral view; 20 — view from above.

Рис. 17–20. Пальпа ♂ *Agelena labyrinthica* (Clerck) (из Тувы): 17 — снизу; 18 — сбоку-сзади; 19 — сбоку-спереди; 20 — сверху.

Agelescape caucasica sp. n.

Figs 9–12, 69–71, 105.

MATERIAL. Holotype ♀ (ZMMU) CN Azerbaijan, Ismailly Dist., env. of Khanaya Vill., 700 m, 08.07.2001 (EFG); Paratypes: 2 ♀♀ (ZMMU) same locality, 01.10.2003 (EFG).

DESCRIPTION. Body 9.80 long. Carapace: 3.75 long, 2.65 wide, yellow with two wide dark gray submarginal bands and thin gray margin. Sternum yellow, gray-darkened laterally. Labium gray, maxillae yellow. Chelicerae brown. Legs yellow with obscure gray spots. Abdomen light gray with light brown anteromedian lanceolate spot and two dark gray lateral bands on dorsum and with slightly darkened rectangular field in area between epigastral furrow and spinnerets. Basal segment of anterior spinnerets brown, other spinnerets yellow. Epigyne as in Figs 9–12, 69–71, with elongate (longer than wide) scape rounded on the tip. Fovea triangle with distinct anchor-like pattern. Vulva with two pairs of round or ovoid receptacula, elongate and wide "tubes" terminated by transparent sack like parts. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	3.50	1.50	2.73	3.20	1.75	12.68
II	3.35	1.50	2.43	3.00	1.63	11.91
III	3.05	1.25	2.40	3.25	1.45	11.40
IV	4.15	1.58	3.38	4.75	2.05	15.91

ETYMOLOGY. The name refers to the distribution of type specimen in Azerbaijan — Caucasus Major.

DIAGNOSIS. This species is similar to *A. affinis* and *A. gideoni* Levy, 1996 in having undivided tongue-like scape. But it differs from these species by shape of epigynal fovea and foveal plate as well as by conformation of spermathecae.

DISTRIBUTION. Type locality only.

Agelescape dunini sp. n.
Figs 1, 2, 6–8.

MATERIAL. Holotype ♂ and paratype ♀ (ZMMU) CW Azerbaijan, Khojavend (=Gadrut) Dist., env. of Azykh Vill., 12.07.1977 (P.M.Dunin).

DESCRIPTION. Male. Body 8.55 long. Carapace: 3.95 long, 2.70 wide, reddish-yellow with two wide dark gray submarginal bands and thin gray margin. Sternum grayish-brown with yellow median stripe. Labium brown. Maxillae brownish-yellow. Chelicerae reddish-brown. Legs reddish-brown with obscure darkenings on femora. Abdomen light yellowish-gray with light brown anteromedian lanceolate spot and two dark gray lateral bands on dorsum and with slightly darkened rectangular field in area between epigastral furrow and spinnerets. Basal segment of anterior spinnerets gray, other spinnerets yellow. Palp as in Figs 1–2, patella and tibia with retrolateral apophysis; median apophysis more or less straight, tegular apophysis wide, embolus long and thin, base of embolus with small unsclerotised part; embolic apophysis slightly shorter than embolus, tip bill-shaped sharply pointed; lamella (conductor) distinctly extends embolic apophysis. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	3.80	1.50	3.45	3.80	2.15	14.70
II	3.65	1.40	3.10	3.70	2.05	13.90
III	3.60	1.30	3.00	4.20	1.90	14.00
IV	4.60	1.50	4.00	5.80	2.50	18.40

Female. Body 11.20 long. Carapace: 4.30 long, 3.00 wide; coloration similar to that of male, but abdomen is paler with lanceolate spot, lateral stripes and ventral rectangular field being less pronounced. Epigyne as in Figs 6–8, fovea pentagonal with wide anchor-shaped pattern; scape bifurcate, wider than long. Vulva with two pairs of receptacula, although one side of vulva can be with three receptacula (Fig. 8), terminal receptacula distinctly larger than basal one, tubes and sacks relatively short. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	3.55	1.50	2.95	3.25	1.90	13.15
II	3.50	1.50	2.70	3.05	1.80	12.55
III	3.50	1.35	2.65	3.55	1.80	12.85
IV	4.50	1.70	3.75	5.05	2.20	17.20

ETYMOLOGY. The species is named after its collector late Dr. P. M. Dunin, the first Azerbaijanian araneologist who made outstanding contribution to the study of spider fauna of Azerbaijan.

DIAGNOSIS. This species is similar to *A. talyshica* sp. n. in having bifurcated scape and to *Agelescape caucasica* sp. n. in having anchor-like foveal plate. But it differs from the former species by smaller scape and from the later species by thicker stem of foveal plate. Also it differs from other *Agelescape* species by conformation of spermathecae. Male of *A. dunini* sp. n. differs from other Azerbaijanian congeners by long, straight and thin embolus and sharply pointed embolic apophysis.

DISTRIBUTION. Type locality only.

Agelescape levyi sp. n.
Figs 3–5.

MATERIAL. Holotype ♂ (ZMMU) CN Azerbaijan, Ismailly Dist., env. of Khanaya Vill., 700 m, 06.2002 (EFG).

DESCRIPTION. Body 5.30 long. Carapace: 2.50 long, 1.85 wide, yellow with two wide submarginal bands and thin gray margin. Sternum gray with yellow median stripe. Labium and maxillae grayish-yellow. Chelicerae brown. Legs yellow with obscure gray spots on femora. Abdomen dark gray with characteristic pattern of yellow spots on dorsum: one anteromedian lanceolate spot, two lateral spots and row of paired spots from the end of lanceolate spot to the end of abdomen. Venter light gray. Spinnerets yellow. Palp as in Figs 3–5, patella and tibia with retrolateral apophysis; median apophysis slightly turned in ventral view, tegular apophysis finger-like, embolus short, S-turned with transparent base; embolic apophysis twice longer than embolus; lamella (conductor) slightly extends embolic apophysis. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	2.05	1.00	2.38	2.88	1.58	9.89
II	2.13	1.00	2.30	2.68	1.55	9.66
III	2.28	0.75	2.00	2.88	1.50	9.41
IV	3.00	1.00	2.05	3.88	1.85	11.78

ETYMOLOGY. The species is named after Dr. Gershom Levy, famous Israeli arachnologist who erected the genus *Agelescape.*

DIAGNOSIS. The species is similar to *Agelescape gideoni* and *A. dunini* sp.n. in having "membranous outgrowth" (after Levy, 1996) in palp (lamella), but differs by thick and twisted embolus (thin and more or less straight in *gideoni* and *dunini* sp.n.), and also the shape of conductor, tegular and median apophyses.

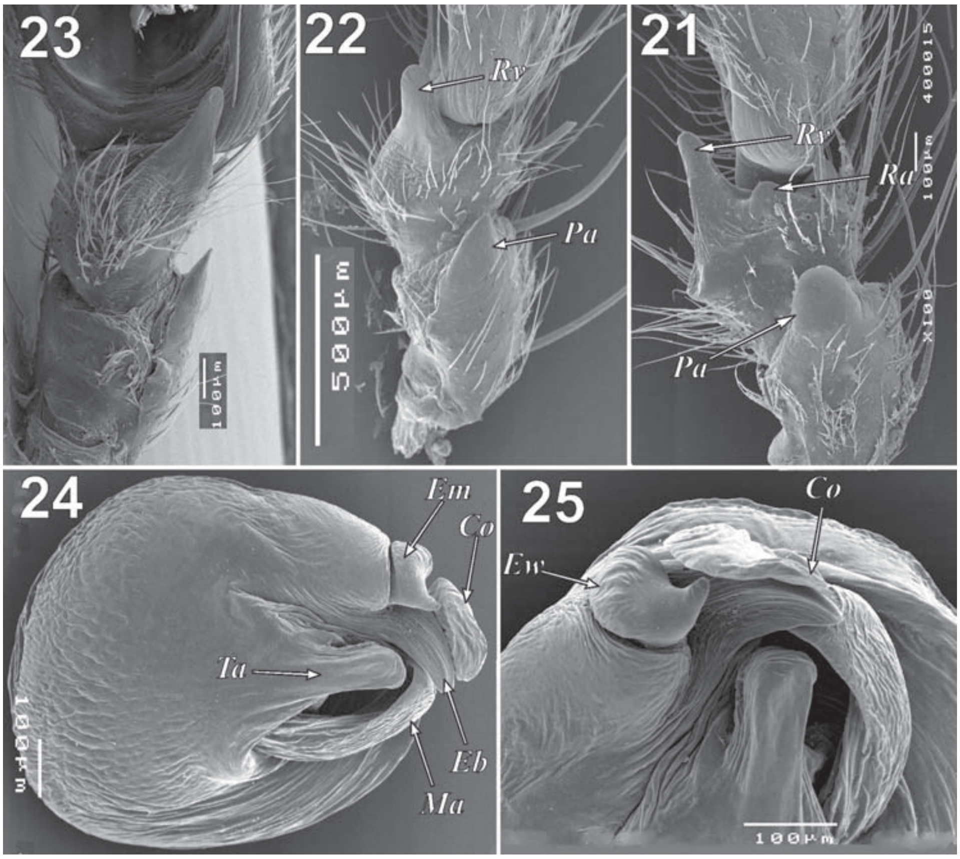
DISTRIBUTION. Type locality only.

COMMENTS. Although this male was collected at the same locality as females of *A. caucasica* sp. n. we do not consider them as conspecific, because of the striking difference in their coloration.

Agelescape talyshica sp. n.
Figs 13–16.

MATERIAL. Holotype ♀ (ZMMU) SE Azerbaijan, Lerik Dist., env. of Lyalyakeran Vill., 1600 m, 23.08.1995 (EFG); Paratypes: 2 ♀♀ (ZMMU) same dist., env. of Mistan Vill., 1300 m, 24.08.1995 (EFG); 5 ♀♀ (ZMMU) SE Azerbaijan, Yardymly Dist., env. of Kyuryakchi Vill., 1500 m, 15.08.1995 (EFG).

DESCRIPTION. Body 8.50 long. Carapace: 3.75 long, 2.55 wide, yellow with two wide dark gray submarginal bands and thin gray margin. Sternum yellow gray darkened laterally. Labium gray. Maxillae yellow. Chelicerae brown. Legs yellow with obscure gray spots. Abdomen light gray with light brown anteromedian lanceolate spot and two dark gray lateral bands on dorsum and with slightly darkened rectangular field in area between epigastral furrow and spinnerets. Basal segment of anterior spinnerets brown, other spinnerets yellow. Epigyne as in Figs 13–16, fovea trapezoidal; scape bifurcate, much wider than long. Vulva with one pair of ovoid receptacula, mid part of vulva with long stretch-



Figs 21–25. Male palp of *Agelena labyrinthica* (Clerck) (21, from Tuva) and *Agelescape* sp. (22–25, from northern Iran): 21, 22 — patella-cymbium, retrolateral view showing apophyses; 23 — same, ventral view; 24 — whole bulbus, ventral view; 25 — terminal part of the bulb, ventro-apical view.

Рис. 21–25. Пальпа ♂ *Agelena labyrinthica* (Clerck) (21, из Тувы) и *Agelescape* sp. (22–25, из северного Ирана): 21, 22 — колено-цимбиум, сбоку-сзади, показаны отростки; 23 — то же, снизу; 24 — весь бульбус, снизу; 25 — верхняя часть бульбуса, снизу-спереди.

ing dorsally outgrowth with conical tip; tubes and sacks relatively short . Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	2.85	1.25	2.15	2.48	1.58	10.31
II	2.70	1.23	1.95	2.30	1.48	9.66
III	2.65	1.13	1.88	2.70	1.40	9.76
IV	3.50	1.23	2.75	2.98	-	-

ETYMOLOGY. The name refers to the distribution of type species in Azerbaijan — Talysh mountains.

DIAGNOSIS. This species is similar to *Agelescape dunini* sp.n. in having bifurcated scape of epigyne. But this scape is much wider than that of *A. dunini*. Also it differs from other *Agelescape* species by shape of epigynal fovea and foveal plate as well as by conformation of spermathecae, with one pair of oval receptacula and long stretching, sharply pointed mid part.

RECORDS. Lenkoran area [sub. *Agelena affinis*, Guseinov, 1999].

DISTRIBUTION. Talysh Mountains in Azerbaijan.

Azerithonica gen. n.

Type species: *Azerithonica hyrcanica* sp.n.

ETYMOLOGY. The generic name refers to its similarity to *Malthonica* Simon, 1898 and to the distribution of type species — Azerbaijan.

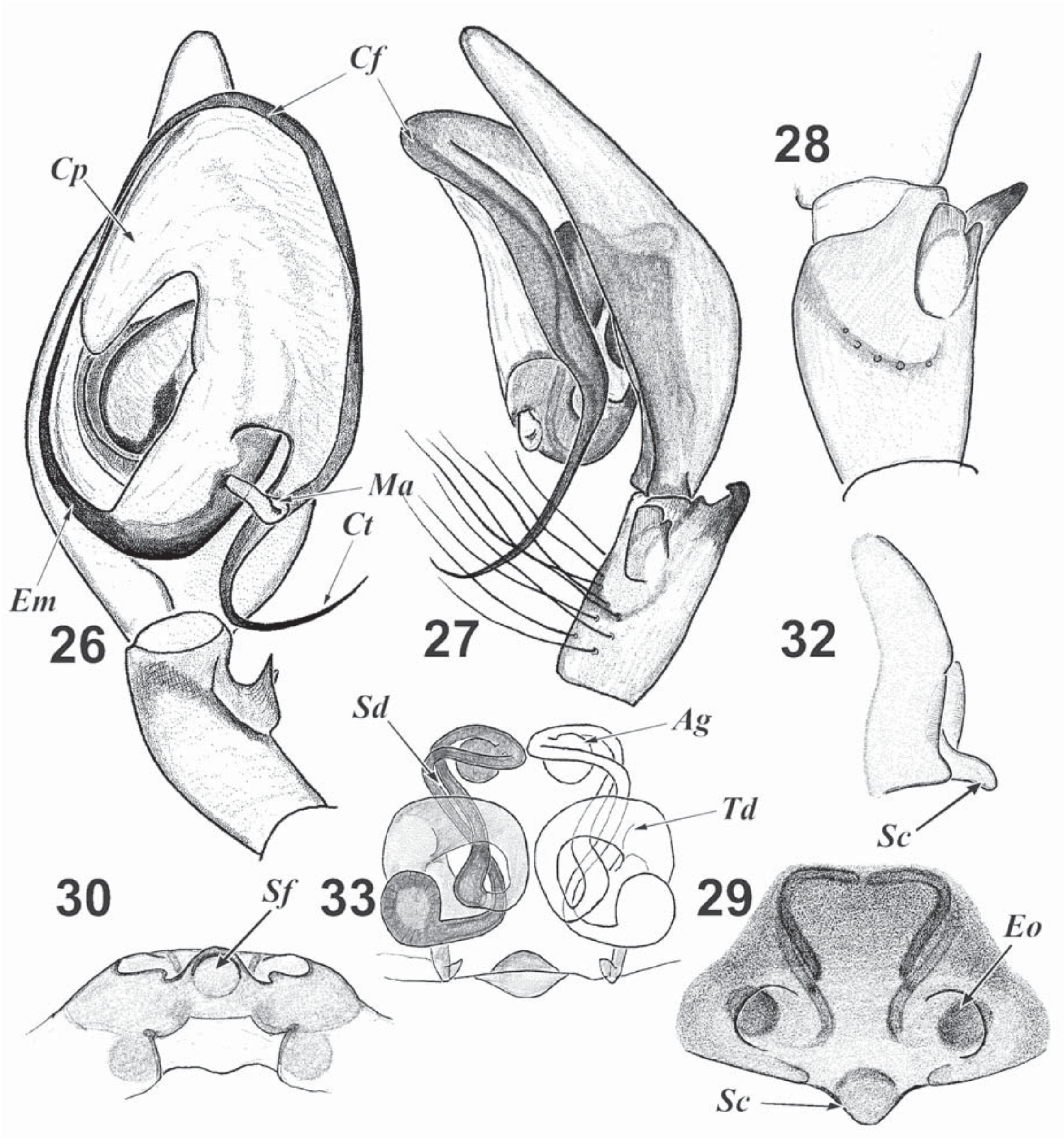
DIAGNOSIS. This genus is closely related to *Malthonica* in having long thin embolus originating basally. Males differ by long and coiled tip of conductor (short and bifurcated in *Malthonica*). Females have much more complex conformation of spermathecae compared to any *Malthonica* species and by having accessorial receptacula attached to the middle of the insemination ducts.

Azerithonica hyrcanica sp. n.

Figs 26–36, 111–113.

Tegenaria picta: Guseinov, 1999: 13.

MATERIAL. Holotype ♂ (ZMMU) SE Azerbaijan, Lenkoran Dist., env. of Avrora Vill., 21.05.2003 (EFG). Paratypes (in ZMMU, IZBA, YMT, ZMT): 2 ♀♀, SE Azerbaijan, Astara Dist., env. of Khamosham Vill., 26.08.1995 (EFG); 2 ♀♀, SE Azer-



Figs 26–33. Copulatory organs of *Azerithonica hyrcanica* sp.n.: 26, 27 — male palp, ventral and retrolateral view respectively, 28 — palpal tibia, ventral view; 29–33 — epigyne, ventral, posterior, lateral and dorsal view respectively.

Рис. 26–33. Копулятивные органы *Azerithonica hyrcanica* sp.n.: 26, 27 — Пальпа ♂, снизу и сбоку-сзади соответсвенно, 28 — голень пальпы, снизу; 29–33 — эпигина, снизу, сзади, сбоку и сверху соответственно.

baijan, Lenkoran Dist., env. of Khanbulan Vill., 27.05.1995 (EFG); 1 ♀, SE Azerbaijan, Lenkoran Dist., env. of Avrora Vill., 27.04.2001 (EFG); 1 ♀, SE Azerbaijan, Astara Dist., env. of Istisu Vill., 25.04.2001 (H.Aliev); 2 ♂♂, 2 ♀♀, SE Azerbaijan, Lenkoran Dist., Hyrcan Reserve, 23.05.2003 (EFG); 1 ♀, SE Azerbaijan, Lenkoran Dist., env. of Apo Vill., 28.05.2003 (H.Aliev); 4 ♂♂, 4 ♀♀ [08/06] SE Azerbaijan, Lenkoran area, Hyrcan Reserve, near dam, 38°38'N 48°47'E, 28.05.2003 (YMM).

DESCRIPTION. Male. Body 4.75 long. Carapace: 2.38 long, 1.95 wide, yellow with thin dark margin and two wide gray median stripes, within these stripes the darker radial strires are clear. In cephalic region the bands are bifurcated with one stripe reaching PME while another PME. Sternum with general pattern typical to Tegenariini (gray background and six yellow lateral spots and yellow median stripe, distinctly narrowed in its posterior part (Fig. 112, see also Figs 107, 117, 124 for similar pattern). Labium, maxillae and chelicerae light brown. Legs yellow with gray annulations. Abdomen with pattern of pale and dark-gray markings. Spinnerets pale. Palp as in Figs 26–28, tibia with two lateral apophysis; both apophysis subdivided into two parts; median apophysis small and short; conductor T-shaped with strongly enlarged terminal part, tip of conductor very long



Figs 34–38. Male palp of *Azerithonica hyrcanica* sp.n. (34–36) and *Tegenaria domestica* (Clerck) (37, 38): 34, 37 — ventral view; 35, 36 — retrolateral view; 38 — terminal part of embolus and conductor.

Рис. 34–38. Пальпа ♂ *Azerithonica hyrcanica* sp.n. (34–36) и *Tegenaria domestica* (Clerck) (37, 38): 34, 37 — снизу; 35, 36 — сбоку-сзади; 38 — верхняя часть эболюса и кондуктора.

whip-like, longer than tibia; embolus long. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	3.63	1.00	3.53	3.90	2.03	14.09
II	2.85	0.95	2.60	3.03	1.58	11.01
III	2.68	0.83	2.10	2.80	1.33	9.74
IV	3.38	0.88	3.00	3.85	1.60	12.71

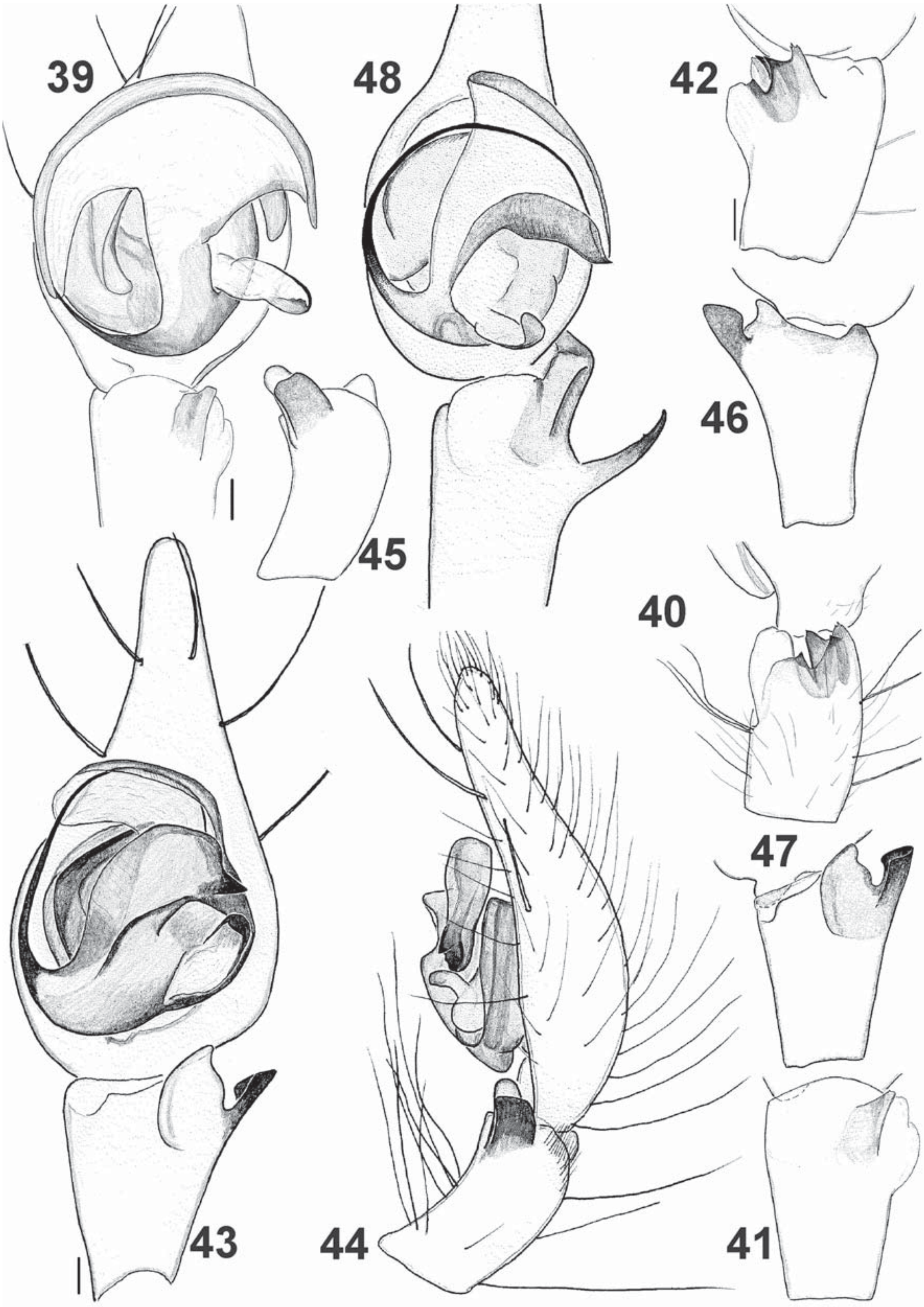
Female. Body 4.60 long. Carapace: 2.20 long, 1.70 wide. Coloration as in male. Epigyne as in Figs 29–33, with distinct triangle-shaped scape and two poorly distinct nipples; with two large round-shaped fovea, and long transparenting insemination ducts. Scape with large semispherical fovea underneath (Figs 30, 33). Vulva with long insemination ducts, ducts consist of two different parts: wide, transparent-weakly sclerotised and thin strongly sclerotised. Upper loop with accessorial receptacula, main receptacula round. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	2.15	0.65	1.80	1.90	1.08	7.58
II	2.25	0.80	1.83	2.00	1.13	8.01
III	2.03	0.68	1.63	1.80	0.93	7.07
IV	2.95	0.78	2.25	2.73	1.18	9.89

ETYMOLOGY. The name refers to the distribution of the species in Azerbaijan — relic Hyrcan forest.

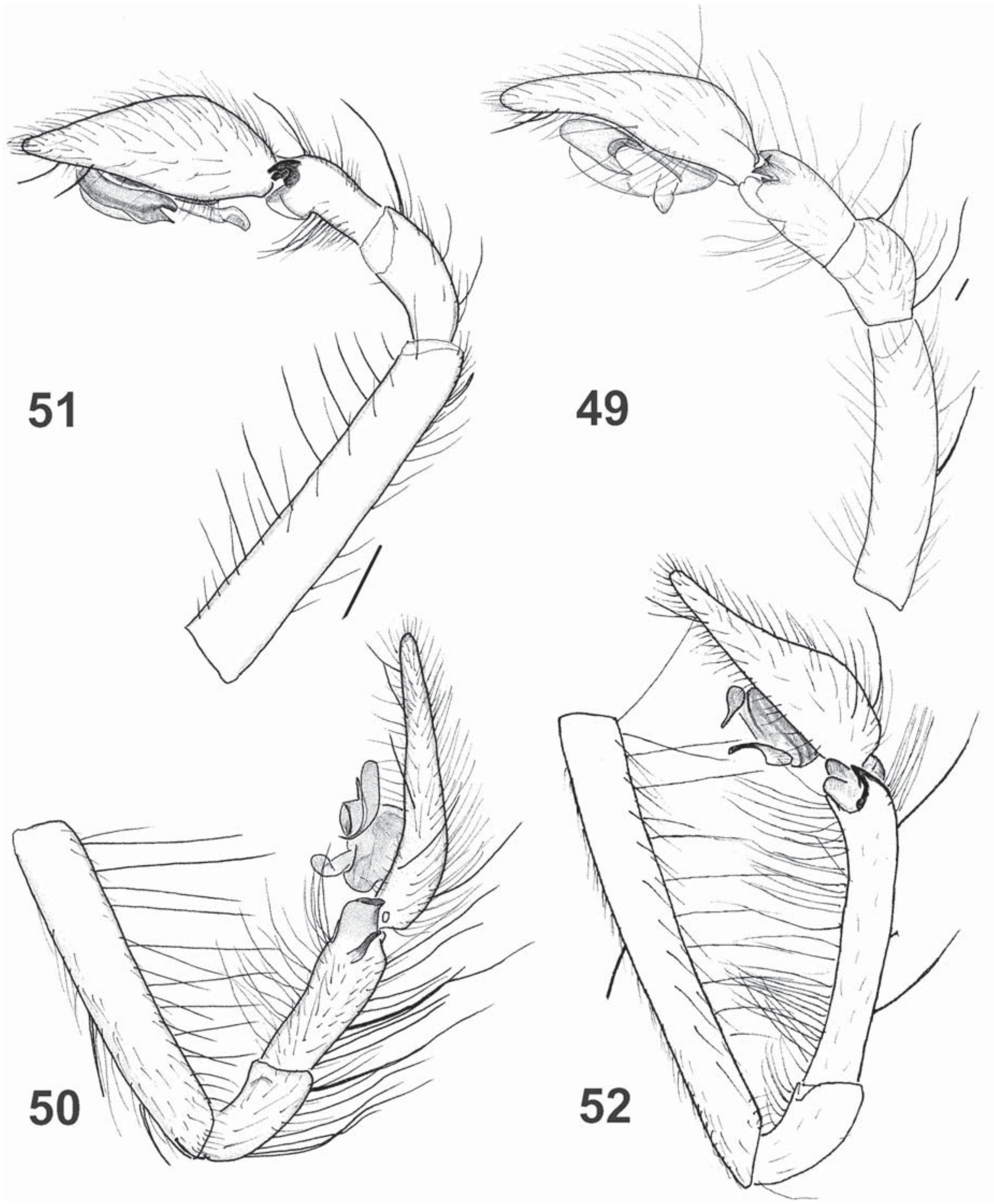
DIAGNOSIS. This species can be easily separated from all other *Tegenaria*-like agelenids by very long whip-like tip of conductor (longer than tibia), distinct triangle scape of epigyne and large round fovea.

DISTRIBUTION. Hyrcan forests in south-eastern Azerbaijan.



Figs 39–48. Male palp of *Malthonica lehtineni* sp.n. (39–42), *M. nakhchivanica* sp.n. (43–47) and *M. lenkoranica* sp.n. (48): 39, 43, 48 — ventral view; 44 — retrolateral view; 40, 45 — tibia, retrolateral view; 41, 47 — tibia, ventral view; 42, 46 — tibia, dorsal view. Scale 0.1 mm.

Рис. 39–48. Пальпа ♂ *Malthonica lehtineni* sp.n. (39–42), *M. nakhchivanica* sp.n. (43–47) и *M. lenkoranica* sp.n. (48): 39, 43, 48 — снизу; 44 — сбоку-сзади; 40, 45 — голень, сбоку-сзади; 41, 47 — голень, снизу; 42, 46 — голень, сверху. Масштаб 0,1 мм.



Figs 49–52. Retrolateral view of the male palp of *Malthonica lehtineni* sp.n. (49), *M. lenkoranica* sp.n. (50), *M. pseudolyncea* sp.n. (51) and *Tegenaria halidi* sp.n. (52). Scale 0.1 and 0.5 mm.

Рис. 49–52. Пальпа ♂ *Malthonica lehtineni* sp.n. (49), *M. lenkoranica* sp.n. (50), *M. pseudolyncea* sp.n. (51) и *Tegenaria halidi* sp.n. (52). Масштаб 0,1 и 0,5 мм.

COMMENT. Earlier this species was reported from Lenkoran area as *Tegenaria picta* Simon, 1870 [Guseinov, 1999].

Lycosoides Lucas, 1846

Lycosoides lehtineni Marusik et Guseinov, 2003

[Marusik & Guseinov, 2003: f. 1–3].

MATERIAL. Holotype ♀ (ZMMU) CE Azerbaijan, Absheron Peninsula, Baku, Ganly-Gyol L., 40°21'46"N 49°48'36"E, 01.11.1994 (EFG).

RECORDS. Absheron Pen. [Marusik & Guseinov, 2003].

DISTRIBUTION. Absheron Peninsula in Azerbaijan.

Malthonica Simon, 1898

Levy [1996] has pointed out that two forms of palpal conformation can be distinguished among Israeli *Tegenaria*. One group includes species with short and thick embolus, while another group constitute species with long filamentous embolus. The same is true for Azerbaijanian *Tegenaria*. Examination of available drawings of *Tegenaria* species from other regions revealed that all of them can be divided at least into these two groups. The type species of *Tegenaria*, *T. domestica* belongs to the group with thick and short embolus originating from subapical part of the bulbus. In the present paper only species with such palpal structure are considered as *Tegenaria*. The remaining species with long, filamentous embolus originating basally or subbasally are very similar to the type species of *Malthonica, M. lusitanica* Simon, 1898. Thus we consider these species as representatives of the genus *Malthonica*. Also the following species from other areas should be transferred to *Malthonica*: *M. aliquoi* (Brignoli, 1971) comb.n., *M. anchela* (Brignoli, 1972) comb.n., *M. annulata* (Kulczyński, 1912) comb.n., *M. argaeica* (Nosek, 1905) comb.n., *M. campestris* (C. L. Koch, 1834) comb.n., *M. dalmatica* (Kulczyński, 1906) comb.n., *M. eleonorae* (Brignoli, 1974) comb.n., *M. epacris* (Levy, 1996) comb.n., *M. ferruginea* (Panzer, 1804) comb.n., *M. lyncea* (Brignoli, 1978) comb.n., *M. maronita* (Simon, 1873) comb.n., *M. mediterranea* (Levy, 1996) comb.n., *M. montana* (Deltshev, 1993) comb.n., *M. nemorosa* (Simon, 1916) comb.n., *M. pagana* (C.L. Koch, 1840) comb.n., *M. parvula* (Thorell, 1875) comb.n.,*M. pasquinii* (Brignoli, 1978) comb.n., *M. picta* (Simon, 1870) comb.n., *M. rilaensis* (Deltshev, 1993) comb.n., *M. sbordonii* (Brignoli, 1971) comb.n., *M. silvestris* (L. Koch, 1872) comb.n., *M. soriculata* (Simon, 1873) comb.n., *M. tyrrhenica* (Dalmas, 1922) comb.n., *M. vallei* (Brignoli, 1972) comb.n., and *M. vomeroi* (Brignoli, 1977) comb.n., all ex *Tegenaria.*

Malthonica lehtineni **sp. n.**
Figs 39–42, 49, 109.

MATERIAL. Holotype ♂ (ZMMU) NE Nakhchevan area, Batabat locality, 39°31.9'N 45°47.3'E, 2100 m, subalpine meadows & under stones, 3.06.2003 (EFG).

DESCRIPTION. Male. Body 5.60 long. Carapace: 2.50 long, 1.90 wide, yellow with obscure light gray radial stripes and darkening between them. Cephalic part with thin gray median stripe and two lateral stripes reaching PLE. Sternum with clear general pattern. Labium, maxillae and chelicerae yellow. Legs yellow with gray spots on femora. Abdomen with pattern of gray and pale markings. Spinnerets yellow. Palp as in Figs 39–42, 49, with short patella, relatively short tibia, tibia with complicated apophysis bearing several spine like tips; conductor large, it terminal part with two subequal arms, retrolateral arm bifurcate (Fig. 39, 49); median apophysis relatively large (about the diameter of tibia); embolus long, it makes 3/4 of the circle, major part of embolus hided by conductor flap. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	2.88	1.00	2.63	2.70	1.55	10.76
II	1.18	0.90	2.15	2.25	1.25	7.73
III	1.18	0.80	1.80	2.33	1.18	7.29
IV	3.13	1.00	2.05	3.38	1.53	11.09

ETYMOLOGY. the species is named after Dr. P.T. Lehtinen who made outstanding contribution to taxonomy of Agelenidae and many other taxa.

DIAGNOSIS. This species is similar to Turkish species *M. pasquinii* (Brignoli, 1978), *M. lyncea* (Brignoli, 1978), and *M. argaeica* (Nosek, 1905) in having hammer-like shape of conductor with relatively long stem and pronounced prolateral and retrolateral arms (branches). But it differs from all these species by the shape of the tip of conductor, tegular and tibial apophyses.

DISTRIBUTION. Type locality only.

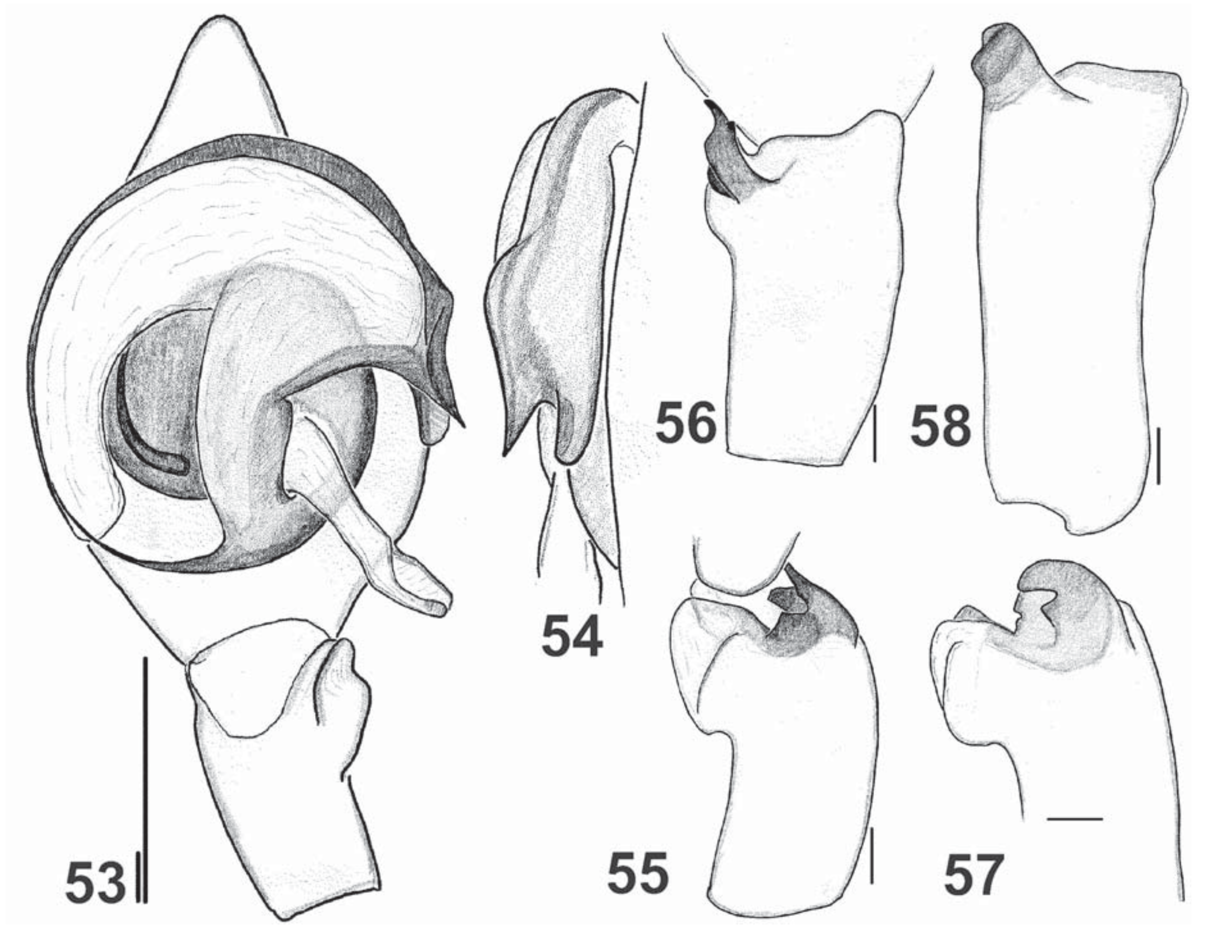
Malthonica lenkoranica **sp. n.**
Figs 48, 50, 85–87, 116, 117, 121.

MATERIAL. Holotype ♂ (ZMMU) [05] SE Azerbaijan, Lenkoran Dist., env. of Aurora Vill., 38°40'N 48°52'E, 21–29.05.2003 (YMM). Paratypes: 3 ♂♂, 1 ♀ (ZMMU & YMT) [05] SE Azerbaijan, Lenkoran Dist., env. of Aurora Vill., 38°40'N 48°52'E, 23–28.04.2001 (YMM).

DESCRIPTION. Male. Body 11.10 long. Carapace: 4.90 long, 4.30 wide, yellow with gray stripes along sides of cephalic part. Sternum yellow with two gray median stripes (reduced general pattern). Labium, maxillae, chelicerae and legs yellow. Abdomen light gray. Basal segment of posterior spinnerets brown, other spinnerets pale. Palp long, as in Figs 48, 50, patella elongate, tibia about 4 times longer than wide, with two retrolateral apophyses: one stretching spine-like, and another flat and broad. Median (=tegular) apophysis is relatively small (shorter than tibial diameter); conductor almost triangle shaped, with thin stem, terminal-prolateral part almost undeveloped, terminal-retrolateral part undivided, sharply pointed; embolus long, makes half of the round (circle), embolus free and not hided by conductor; base of embolus with distinct seminal loop. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	11.50	2.60	12.00	14.50	4.20	44.80
II	10.00	2.50	9.60	11.70	3.00	36.80
III	7.50	1.90	6.50	10.90	2.60	29.40
IV	9.40	2.10	9.00	13.50	3.50	37.50

Female. Body 11.10 long. Carapace: 4.40 long, 3.25 wide; dark yellow with two dark gray median bands along sides of cephalic part and obscure radial stripes within bands. Sternum with general pattern. Labium and maxillae reddish-brown. Chelicerae dark-brown. Legs dark yellow with gray annulations on femora. Abdomen with pattern of gray and



Figs 53–58. Male palp of *Malthonica pseudolyncea* sp.n. (53–56) and *M. lyncea* (Brignoli) (57–58): 53 — ventral view; 54 — terminal part of conductor, retrolateral view; 55, 57 — tibia, retrolateral view; 56, 58 — tibia, dorsal view. 57 — specimen from Nakhchevan, 58 — from Ismailly. Scale 0.1 and 0.5 mm.

Рис. 53–58. Пальпа ♂ of *Malthonica pseudolyncea* sp.n. (53–56) и *M. lyncea* (Brignoli) (57–58): 53 — снизу; 54 — верхняя часть кондуктора, сбоку-сзади; 55, 57 — голень, сбоку-сзади; 56, 58 — голень, сверху. 57 — экземпляр из Нахичевани; 58 — из Исмаиллы. Масштаб 0,1 и 0,5 мм.

pale yellow markings. Spinnerets brown. Epigyne as in Figs 85–87 with two poorly visible closely separated nipples and without fovea, epigynal plate wide trapezoidal; posterior part of plate wide, oval shaped. Vulva with two types of insemination ducts: broad and transparent and strongly sclerotised forming several loops. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	6.00	1.80	5.95	6.15	2.50	22.40
II	5.30	1.80	4.80	5.30	2.10	19.30
III	4.75	1.50	4.00	4.90	1.80	16.95
IV	6.20	1.60	5.20	6.75	2.25	22.00

ETYMOLOGY. The name refers to the type locality of species — Lenkoran area.

DIAGNOSIS. By the shape of almost triangle conductor with long stem this species could be compared only with *M. anchela* (Brignoli, 1972) from Turkey and *M. vallei* (Brignoli, 1972) from Crete [cf. Brignoli 1972a,b], but it differs from these species by the sclerotized posterior margin of conductor and shape of median and tibial apophyses. From other Azerbaijanian species it can be easily separated by having loop of seminal duct in the embolic base. Females of this species have complicated conformation of spermathecae with no similar pattern in other *Malthonica* species.

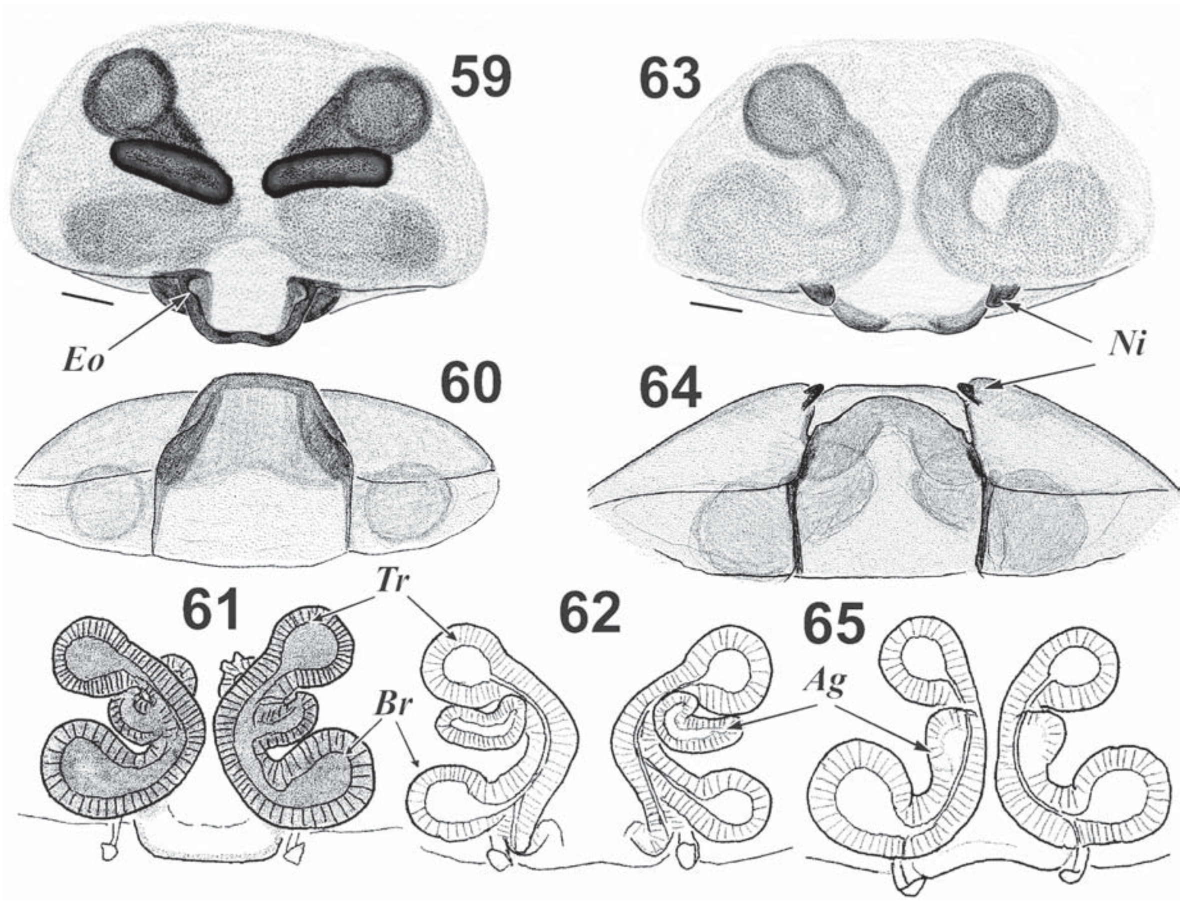
DISTRIBUTION. Type locality only.

Malthonica lyncea (Brignoli, 1978) **comb.n.**
Figs 57–58, 63–68, 122, 123.

[Brignoli, 1978: f. 86–87, 89].

MATERIAL. 1 ♀ (ZMMU), CN Azerbaijan, Ismailly Dist., Ismailly Res., 1000–1200 m, 14.07.2001 (EFG); 2 ♂♂, 3 ♀♀ (ZMMU),same dist., env. of Khanaya Vill., 700 m, 06.2002 (EFG); 1 ♂ (YMT) [14] Nakhchevan area, ca 3 km E of Akhura Vill. 39°34'N 45°11'E, 1400 m, 2.06.2003 (YMM).

DESCRIPTION. Male. Body 8.00 long. Carapace: 3.60 long, 2.80 wide, yellow with thin dark gray margin, light gray radial stripes and obscure darkenings between them. Cephalic part brown with thin dark brown median stripe and



Figs 59–65. Epigyne of *Malthonica pseudolyncea* sp.n. (59–62) and *M. lyncea* (Brignoli) (63–65): 59, 63 — ventral view; 60, 64 — posterior view; 61–62, 65 — dorsal view. 61 and 62 different specimens drawn by transmitting and reflective microscopes. Scale 0.1 mm.

Рис. 59–65. Эпигина *Malthonica pseudolyncea* sp.n. (59–62) и *M. lyncea* (Brignoli) (63–65): 59, 63 — снизу; 60, 64 — сзади; 61–62, 65 — сверху. 61 и 62 разные экземпляры нарисованы с помощью просвечивающего микроскопа и бинокуляра. Масштаб 0,1 мм.

two lateral stripes reaching PLE. Sternum with clear general pattern. Labium, maxillae and chelicerae dark brown. Legs light yellow. Abdomen with pattern of gray and pale markings. Spinnerets pale. Palp as in Figs 57, 58, 66–68, with very long femur (almost subequal to patella-cymbium length) and patella (longer than tibia and equal to cymbium), tibial apophysis complicated with two arms. Median apophysis large and thick (equal in width to conductor stem); conductor large with two equally developed arms; embolus long, most of it hidden by conductor flap. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	4.55	1.50	4.65	4.60	2.50	17.80
II	4.25	1.50	3.55	4.15	2.15	15.60
III	4.10	1.15	3.10	4.10	1.90	14.35
IV	5.00	1.55	4.55	5.85	2.35	19.30

Female. Body 7.75 long. Carapace: 3.25 long, 2.25 wide, coloration as in male. Sternum as in male. Labium and maxillae light brown. Chelicerae as in male. Legs light brown with yellow femora. Abdomen as in male. Spinnerets pale except for basal segment of anterior spinnerets. Epigyne as in Figs 63–65, without distinct plate in ventral view and with two small nipples directed to each other. Vulva with two pairs round receptacula united by duct, mid part of duct with accessorial gland. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	3.00	1.25	2.70	2.83	1.68	11.46
II	2.88	1.10	2.25	2.50	1.38	10.11
III	1.18	1.00	1.90	2.40	1.23	7.71
IV	3.55	1.15	2.95	3.50	1.53	12.68

DIAGNOSIS. See diagnosis of *M. pseudolyncea* sp.n.

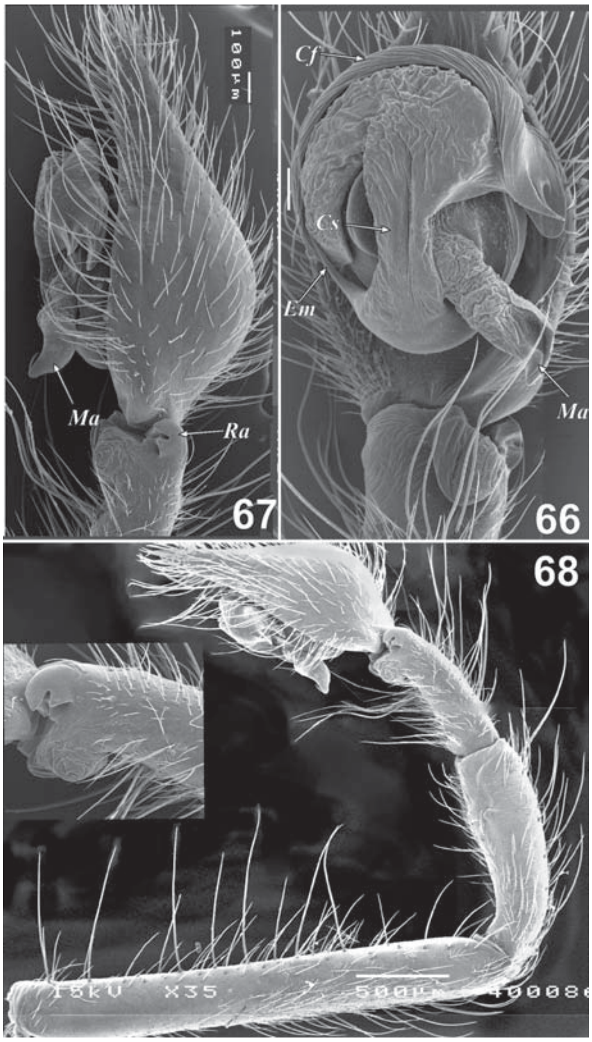
DISTRIBUTION. So far this species is known from Turkey and Azerbaijan only.

COMMENTS. This species in new to the fauna of Azerbaijan and the whole former Soviet Union.

Malthonica nakhchivanica sp. n.

Figs 43–47, 82–84, 114, 115.

MATERIAL. Holotype ♂ (ZMMU) [14] Nakhchevan area, ca 3 km E of Akhura Vill. 39°34'N 45°11'E, 1400 m, 2.06.2003



Figs 66–68. Male palp of *Malthonica lyncea* (Brignoli) from Ismailly: 66 — ventral view; 67, 68 — lateral view.

Рис. 66–68. Пальпа ♂ *Malthonica lyncea* (Brignoli) из Исмаиллы: 66 — снизу; 67, 68 — сбоку.

(YMM); Paratype: 1 ♀ (YMT) NE Nakhchevan area, env. of Bichenek Vill., Bichenek River, 39°29'473N 45°44'997E, 1600 , gravely bank, 3.06.2003 (YMM).

DESCRIPTION. Male. Body 7.50 long. Carapace: 3.70 long, 2.75 wide, light yellow with light brown cephalic part and obscure light gray radial stripes, anterior radial stripes extend to the sides of cephalic part. Sternum yellow with pale posteromedian spot (reduced general pattern). Labium and maxillae yellow. Chelicerae brown. Legs I yellow with brown femora. Legs II uniform yellow. Legs III and IV uniform pale yellow. Abdomen with pattern of gray and pale yellow markings. Spinnerets pale. Palp as in Figs 43–47, tibia short with two apophyses, one retrolateral-ventral lamellate, another lateral outstanding. Median apophysis large and wide, conductor rather complicated with prolateral arm larger than retrolateral; stem wider than prolateral arm; retrolateral arm bifurcate. Embolus whip-like, starts in position 7.5 o'clock, it makes half circle turn, apical part of it hidden by conductor's flap. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	6.20	1.60	6.20	6.40	2.75	23.15
II	5.70	1.45	5.45	6.00	2.25	20.85
III	5.00	1.30	4.15	5.75	1.70	17.90
IV	6.00	1.45	5.85	7.45	2.15	22.90

Female. Body 9.40 long. Carapace: 3.80 long, 2.80 wide, yellow with thin light gray margin and two wide light gray median bands and obscure radial stripes within bands. Sternum light brown with longitudinal yellow anteromedian and posteromedian spots (reduced general pattern). Labium and maxillae light brown. Chelicerae dark brown. Legs yellow with obscure markings of gray hairs on femora. Abdomen with pattern of gray and pale markings. Spinnerets pale. Epigyne as in Figs 82–84, without fovea, margins of epigynal plate have complicated profile (Fig. 84), plate much wider (ca 5 times) than high. Vulva relatively simple with round receptacula and accessorial arm; receptacula spaced by their diameter. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	4.50	1.50	4.30	4.55	2.00	16.85
II	4.15	1.30	3.60	4.00	1.85	14.90
III	3.85	1.25	3.20	4.00	1.70	14.00
IV	4.90	1.35	4.35	5.40	1.90	17.90

ETYMOLOGY. The name refers to the distribution of this species — Nakhchivan autonomous republic of Azerbaijan.

DIAGNOSIS. This species is similar to *M. pagana* (C.L. Koch, 1840) and related species [cf Levy, 1996] in having conductor coiled prolaterally and only conductor tip directed retrolaterally. But it differs by the shape of conductor tip, median and tibial apophyses and spermathecae conformation from all other related species.

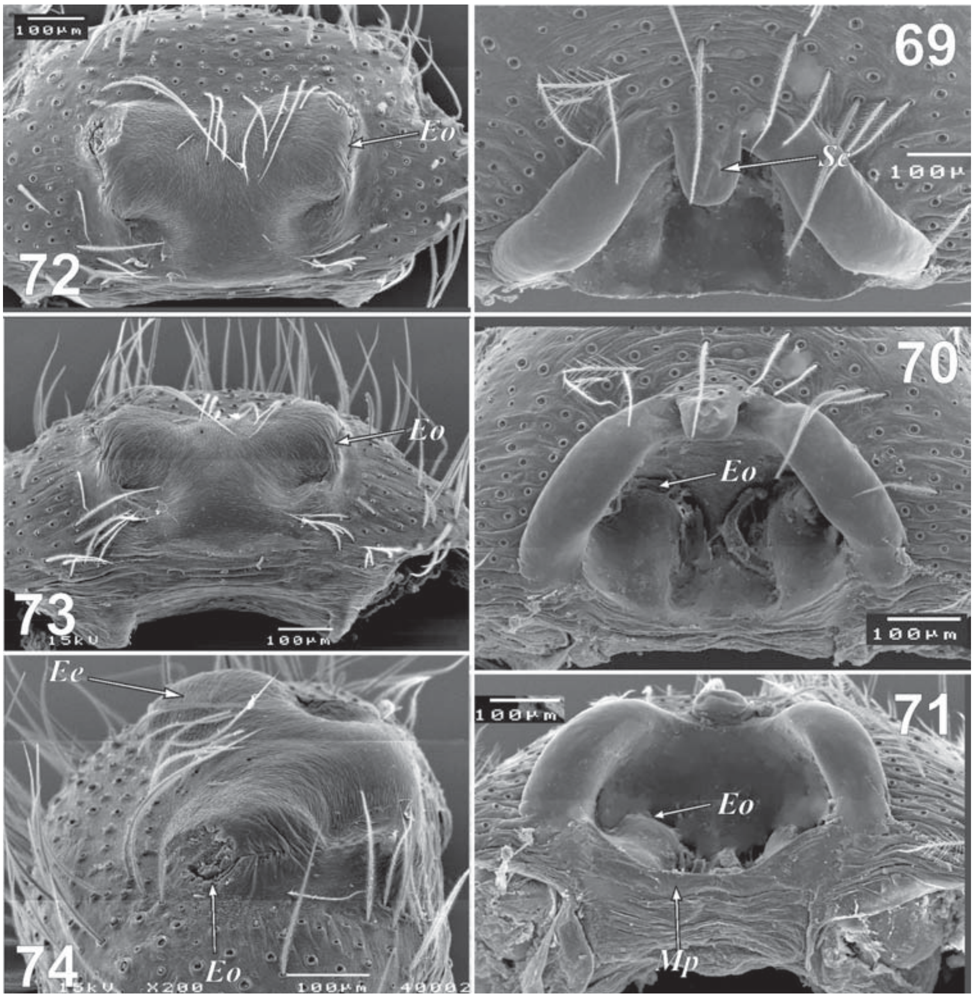
DISTRIBUTION. Nakhchivan autonomous republic of Azerbaijan.

Malthonica pseudolyncea sp. n.

Figs 51, 53–56, 59–62, 100, 101, 125.

MATERIAL. Holotype ♂ and paratype ♀ (ZMMU) NW Azerbaijan, Gakh Dist., env. of Gashkachai Vill.,1000 m, 03.07.1977 (PMD); Paratypes: 2 ♀♀ (ZMMU) NW Azerbaijan, Zagatala Dist., env. of Jar Vill., 750 m, 04.07.1981 (PMD); 1 ♀ (ZMMU) CN Azerbaijan, Sheki Dist., env. of Jugut Vill., 21.06.1977 (PMD); 1 ♀ (ZMMU) NW Azerbaijan, Gakh Dist., env. of Gakh Town, 25.06.1977 (PMD); 1 ♀ (IZBA) NW Azerbaijan, Zagatala Dist., Zagatala Res.22.06.2003 (H.Aliev & N.Snegovaya);.

DESCRIPTION. Male. Body 6.05 long. Carapace: 2.90 long, 2.30 wide, brown with dark gray radial stripes and median dark brown stripe in cephalic part. Sternum with reduced general pattern. Labium and maxillae brown. Chelicerae dark brown. Legs brown. Abdomen with pattern of gray and pale yellow markings. Spinnerets yellow with gray basal segments of anterior spinnerets. Palp as in Figs 51, 53–56, patella subequal in length to tibia, tibial apophysis complicated with two arms. Median apophysis long; conductor large with longer prolateral arm; retrolateral arm



Figs 69–74. Epigyne of *Agelescape caucasica* sp.n. (69–71) and *Maltonica ismaillensis* sp.n. (72–74): 69 — ventro-apical view; 70, 72 — ventral view; 71, 73 — posterior view; 74 — lateral view.

Рис. 69–74. Эпигина *Agelescape caucasica* sp.n. (69–71) и *Maltonica ismaillensis* sp.n. (72–74): 69 — снизу-спереди; 70, 72 — снизу; 71, 73 — сзади; 74 — сбоку.

bifurcate; embolus long, starts at 6 o'clock, most of it hidden by conductor flap. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	3.28	1.15	2.90	3.05	1.63	12.01
II	2.95	1.00	2.40	2.73	1.38	10.46
III	2.73	0.98	1.98	2.60	1.15	9.44
IV	2.68	0.88	2.40	3.05	1.33	10.34

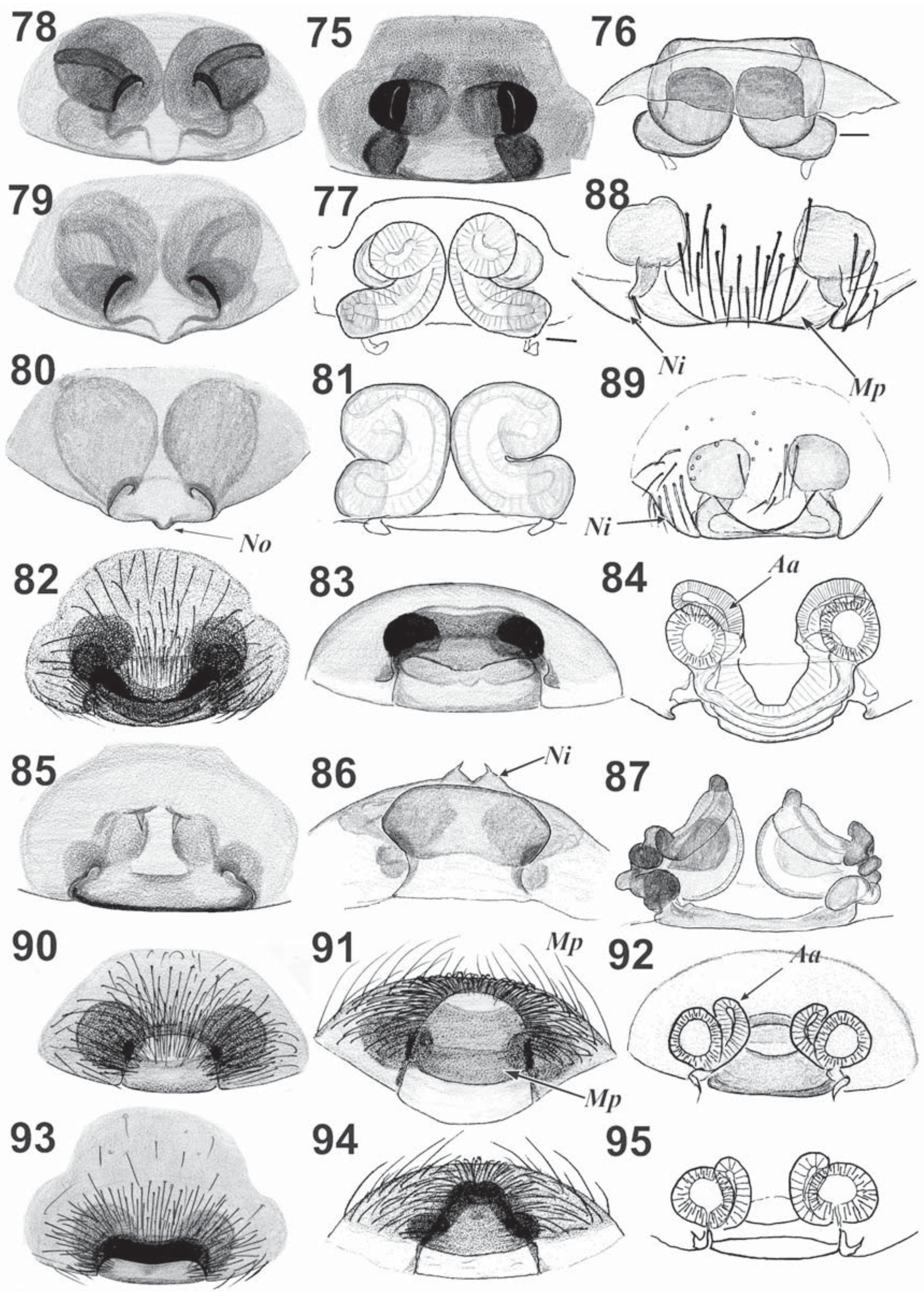
Female. Body 7.60 long. Carapace: 3.00 long, 2.25 wide. Coloration similar to male but sternum uniformly brown. Epigyne as in Figs 59–62, 100, 101 with plate slightly extending epigastric furrow, nipples absent, epigynal plate with distinct transparenting round receptacula and transverse dark duct. Vulva with two pairs round receptacula united by duct, mid part of duct with long accessorial gland. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	2.65	1.13	2.30	2.38	1.33	9.96
II	2.38	1.00	1.88	2.05	1.15	8.46
III	2.18	0.88	1.55	2.00	0.88	7.49
IV	3.00	1.03	2.50	3.05	1.30	10.88

ETYMOLOGY. The name refers to the similarity of this species to *M. lyncea* in both palpal and epigynal conformation.

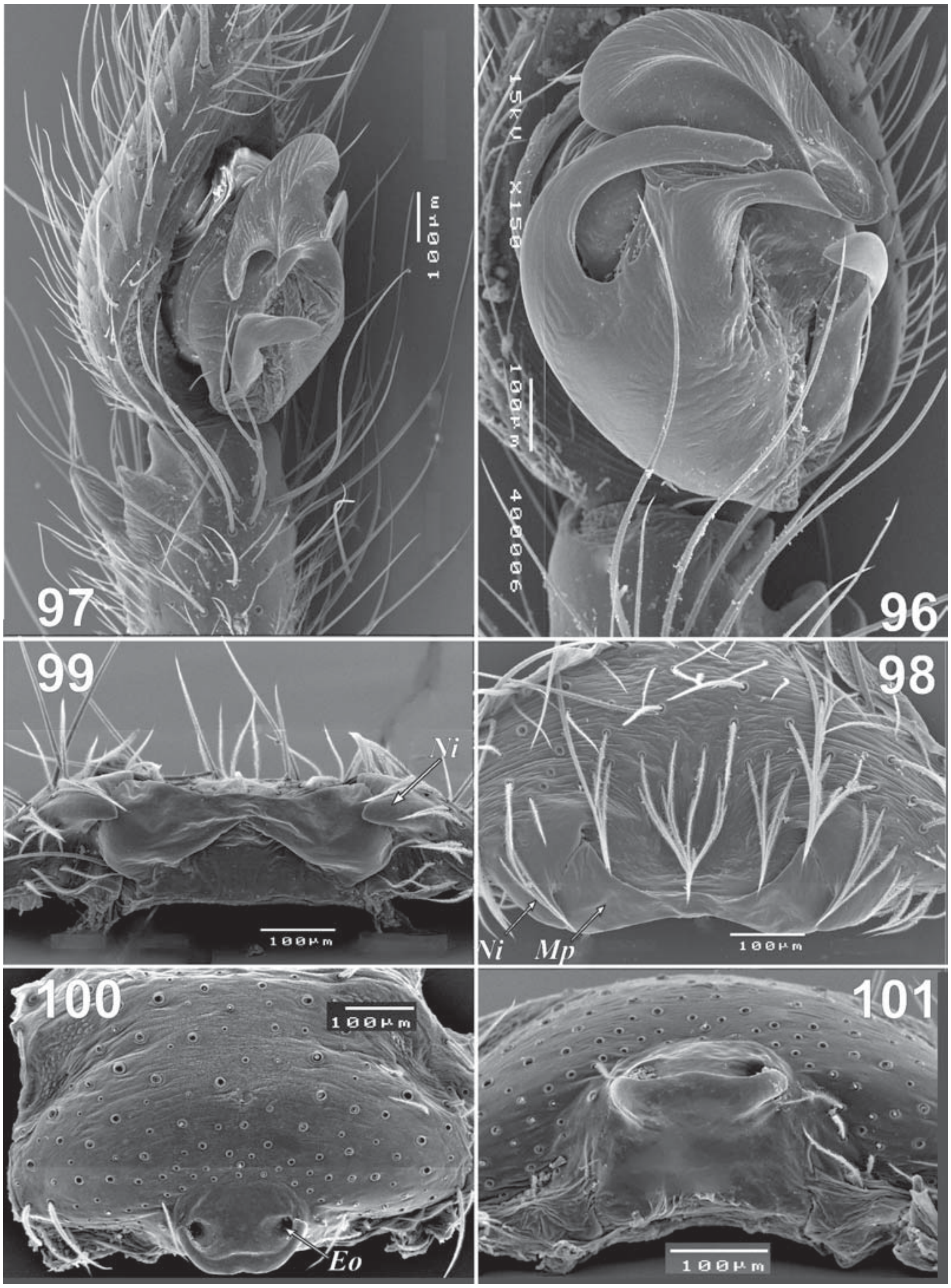
DIAGNOSIS. This species is very similar to *M. lyncea*. Males of new species differs from sibling *M. lyncea* by longer embolus, thinner median (tegular) apophysis, longer prolateral arm of conductor, shape of tibial apophysis and much shorter palp. Females of two siblings can be easily separated by the shape of median part of the plate, presence of nipples in *M. lyncea,* and much longer accessorial glands in *M. pseudolyncea* sp.n.

DISTRIBUTION. Azerbaijan.



Figs 75–95. Epigyne of *Tegenaria ismaillensis* sp.n. (75–77), *T. zagatalensis* sp.n. (78–81), *Malthonica nakhchivanica* sp.n. (82–84), *M. lenkoranica* sp.n. (85–87), *Tegenaria domestica* (Clerck) (88, from Baku), *T. adomestica* sp.n. (89), *T. halidi* sp.n. (90–92) and *T. talyshica* sp.n. (93–95): 75, 78–80, 82, 85, 88–90, 93 — ventral view; 76 — apical (= frontal) view; 77, 81, 84, 87, 92, 95 — dorsal view; 78–80 — different turns; 83, 86, 91, 94 — posterior view. Scale 0.1 mm.

Рис. 75–95. Эпигина *Tegenaria ismaillensis* sp.n. (75–77), *T. zagatalensis* sp.n. (78–81), *Makthonica nakhchivanica* sp.n. (82–84), *M. lenkoranica* sp.n. (85–87), *Tegenaria domestica* (Clerck) (88, Баку), *T. adomestica* sp.n. (89), *T. halidi* sp.n. (90–92) и *T. talyshica* sp.n. (93–95): 75, 78–80, 82, 85, 88–90, 93 — снизу; 76 — сверху (= спереди); 77, 81, 84, 87, 92, 95 — сверху; 78–80 — разные аспекты; 83, 86, 91, 94 — сзади. Масштаб 0,1 мм.

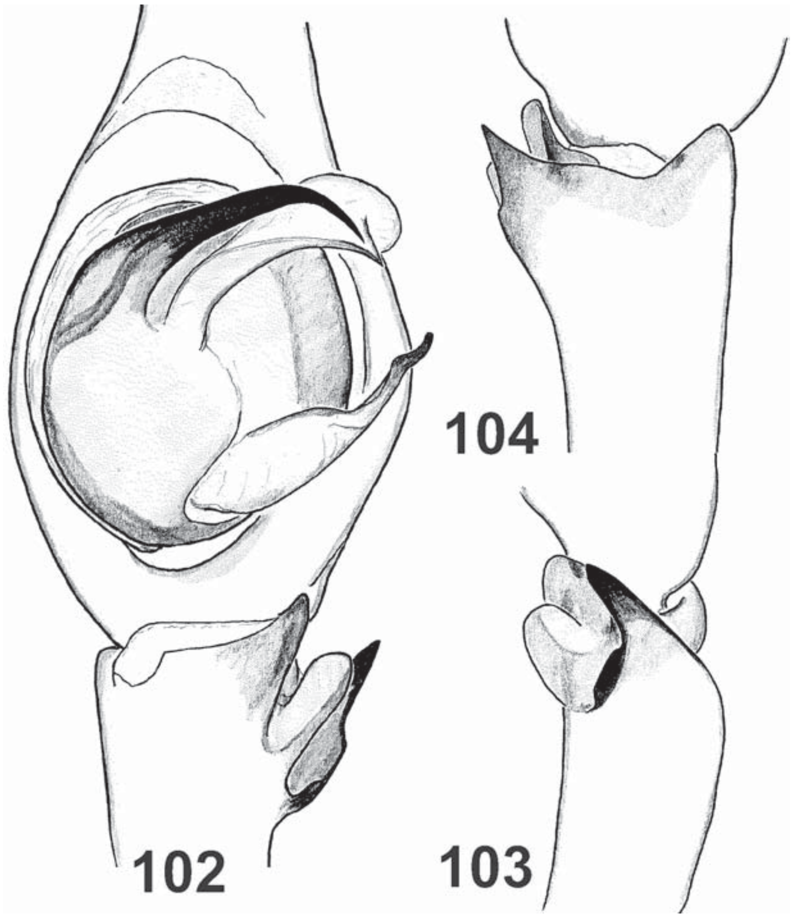


Figs 96–101. Copulatory organs of *Tegenaria domestica* (Clerck) (96–99) and *Malthonica pseudolyncea* sp.n. (100, 101): 96, 97 — male palp, ventral and retrolateral view respectively; 98, 100 — epigyne, ventral view; 99, 101 — epigyne, posterior view.

Рис. 96–101. Копулятивные органы *Tegenaria domestica* (Clerck) (96–99) и *Malthonica pseudolyncea* sp.n. (100, 101): 96, 97 — пальпа ♂, снизу и сбоку-сзади соответсвенно; 98, 100 — эпигина, снизу; 99, 101 — эпигина, сзади.

Tegenaria Latreille, 1804

Tegenaria is the largest genus among Agelenidae. It encompasses 123 species distributed almost exclusively in Holarctic. Most of its species are known from Mediterranean. Judging from the copulatory organs this genus is highly heterogenous and very likely polyphyletic (cf "Comments" under *Malthonica*). Here, in *Tegenaria,* we treat species with short and thick embolus starting ca at 10 o'clock, reduced prolateral arm of conductor, epigynes of which have distinct median plate, round receptacula accompanied with tube like accessorial gland or without accessorial parts.



Figs 102–104. Male palp of *T. halidi* sp.n.: 102 — ventral view; 103–104 — tibia, retrolateral and dorsal view, respectively.
Рис. 102–104. Пальпа ♂ *T. halidi* sp.n.: 102 — снизу; 103–104 — голень, сзади и сверху, соответсвенно.

Tegenaria domestica (Clerck, 1757)
Figs 37, 38, 88, 96–99.

[Miller, 1971: pl. XXIX, f. 15–16; Roberts, 1995: 246, f.; Levy, 1996: f. 77–81; Agnarsson, 1996:f. 29A–C; Roberts, 1998: 263, f.].

MATERIAL. 1 ♀ (IZBA) CE Azerbaijan, Absheron Pen., Baku, Bailov Park, 10.06.1997 (EFG); 1 ♂ (ZMMU) CE Azerbaijan, Absheron Pen., Baku City, Bailov Park, 18.05.1976; 1 ♀ (ZMMU) SW Azerbaijan, Lenkoran Dist., env. of Lenkoran Town, 09.07.1978 (PMD); 5 ♂♂, 6 ♀♀ (ZMMU) NE Azerbaijan, Khachmas Dist., env. of Mukhtadir Vill., 12.06.1989 (PMD); 2 ♂♂ (ZMMU) CE Azerbaijan, Absheron Pen., env. of Bina Vill., 19–20.05.1976 (PMD); 2 ♀♀ (ZMMU) CN Azerbaijan, Guba Dist., env. of Guba Town., 13.07.1975 (PMD);.

RECORDS. Gusar Dist. (Gusar) [sub *T. derhami,* Werzbitzky, 1902], Azerbaijan (no exact locality) [sub *T. derhami,* Bogachev, 1951], Sheki-Zagatala area [sub *T. derhami* part, Atakishiev, 1969] same area [Dunin, 1989], Absheron Pen. [Dunin, 1984], Muganskaya steppe [Dunin & Mamedov, 1992], Lenkoran area [Guseinov, 1999].

DISTRIBUTION. Cosmopolitan [Platnick, 2004], in most part of the range it is exclusively synantropic.

Tegenaria adomestica **sp. n.**
Fig. 89.

MATERIAL. Holotype ♀ (ZMMU) NE Azerbaijan, Khachmass Dist., env. of Nabran Vill., 29.07.2000 (EFG).

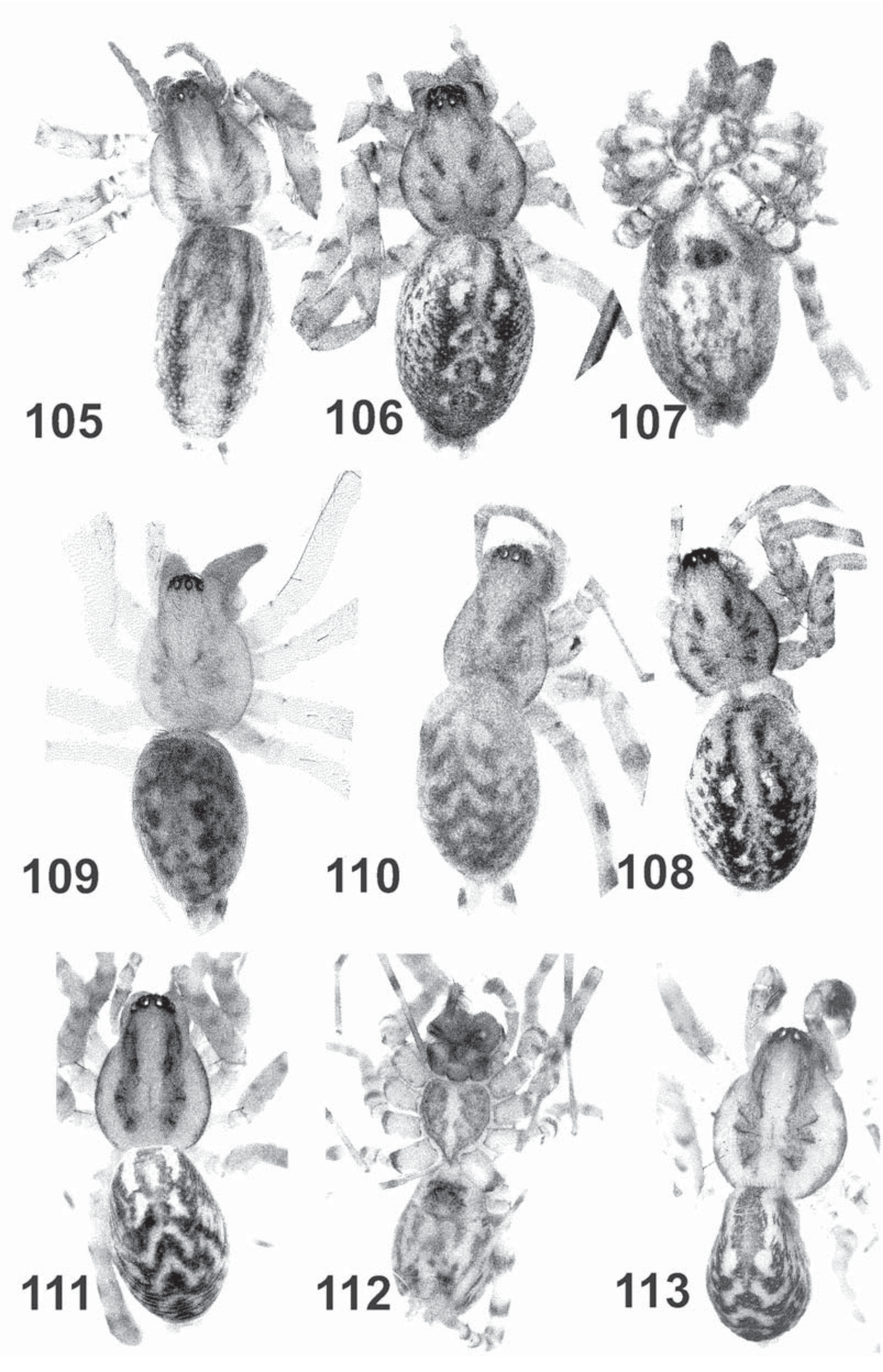
DESCRIPTION. Female. Body 9.05 long. Carapace: 4.00 long, 3.10 wide, yellow with two wide light gray medial bands and light brown cephalic part. Sternum light brown. Labium and maxillae brown. Chelicerae dark brown. Legs yellow with gray spots. Abdomen light gray with dark gray spots. Spinnerets yellow. Epigyne as in Fig. 89, with distinct fovea and median plate, spermathecae spaced by less than diameter; diameter of spermatheca larger than plate height. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	4.25	1.50	3.75	3.95	2.30	15.75
II	3.93	1.50	3.25	3.80	1.98	14.46
III	3.65	1.30	2.85	3.78	1.65	13.23
IV	4.55	1.43	4.05	5.25	2.00	17.28

ETYMOLOGY. The name refers to its very close similarity to *T. domestica*.

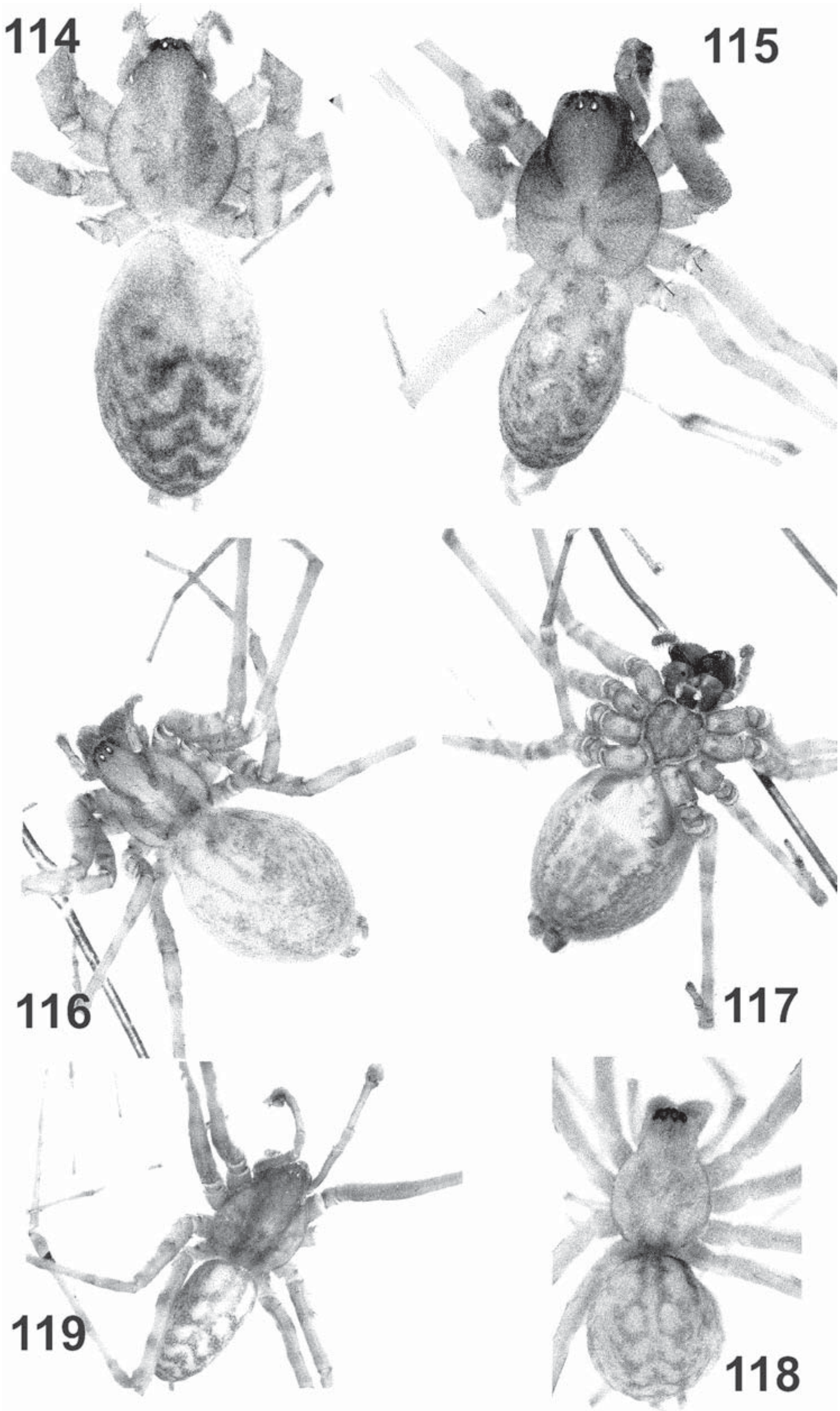
DIAGNOSIS. This species is closely related to *T. domestica,* although can be easily separated by larger and closely spaced (less than diameter) spermathecae.

DISTRIBUTION. Type locality only.



Figs 105–113. General appearance of *Agelescape caucasica* sp.n. (105), *Tegenaria ismaillensis* sp.n. (106–108), *Malthonica lehtineni* sp.n. (109), *Tegenaria talyshica* sp.n. (110) and *Azerithonica hyrcanica* sp.n. (111–113): 105, 106, 108–111, 113 — dorsal view; 107, 112 — ventral view. 105–108, 110–112 — ♀, 109, 113 — ♂.

Рис. 105–113. Внешний вид *Agelescape caucasica* sp.n. (105), *Tegenaria ismaillensis* sp.n. (106–108), *Malthonica lehtineni* sp.n. (109), *Tegenaria talyshica* sp.n. (110) и *Azerithonica hyrcanica* sp.n. (111–113): 105, 106, 108–111, 113 — сверху; 107, 112 — снизу. 105–108, 110–112 — ♀, 109, 113 — ♂.



Figs 114–119. General appearance of *Malthonica nakhchivanica* sp.n. (114, 115), *M. lenkoranica* sp.n. (116, 117) and *Tegenaria halidi* sp.n. (118, 119): 114–116, 118, 119 — dorsal view; 117 — ventral view. 114, 116–118 — ♀; 115, 119 — ♂.

Рис. 114–119. Внешний вид *Malthonica nakhchivanica* sp.n. (114, 115), *M. lenkoranica* sp.n. (116, 117) и *Tegenaria halidi* sp.n. (118, 119): 114–116, 118, 119 — сверху; 117 — снизу. 114, 116–118 — ♀; 115, 119 — ♂.

Tegenaria halidi **sp. n.**
Figs 52, 90–92, 102–104, 118, 119.

MATERIAL. Holotype ♂ and paratype ♀ (ZMMU) SE Azerbaijan, Astara Dist., env. of Istisu Vill., 04.06.1996 (H.Aliev).

DESCRIPTION. Male. Body 8.85 long. Carapace: 3.50 long, 3.20 wide, yellow with light brown cephalic part and brown radial stripes. Anterior radial stripes continue to the sides of cephalic part. Sternum yellow with several light brown spots in center (reduced general pattern). Labium, maxillae and chelicerae light brown. Legs yellow with brown annulations on femora. Abdomen with pattern of gray and pale yellow markings. Spinnerets pale. Palp as in Figs 52, 102–104, with long femur and tibia, tibia with three armed apophysis; median (tegular) apophysis long (longer than diameter of tibia and equal to embolus and conductor length); conductor short one armed, equal in length to embolus and median apophysis, its tip bifurcate, base of conductor placed in the center of tegulum; embolus short, starts at 9 oclock and terminating at 2 o'clock. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	9.00	1.80	9.40	9.25	3.30	32.75
II	7.35	1.70	7.00	7.80	3.05	26.90
III	6.00	1.45	5.35	7.10	2.55	22.45
IV	7.50	1.55	7.15	9.35	3.00	28.55

Female. Body 7.25 long. Carapace: 3.35 long, 2.55 wide, yellow with thin gray margin and two wide light gray median bands. Sternum as in male. Labium, maxillae and chelicerae light yellow. Legs as in male. Abdomen and spinnerets as in male. Epigyne as in Figs 90–92, without fovea, sclerotised plate thinner than membranous. Vulva simple, with round receptacula and small accessorial inner arm; accesorial arm wider than receptacula radius. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	4.55	1.30	4.50	4.70	2.65	17.70
II	4.15	1.25	3.70	4.10	2.00	15.20
III	3.75	1.25	3.05	3.90	1.75	13.70
IV	4.75	1.35	4.20	5.65	2.10	18.05

ETYMOLOGY. the species is named after our friend and colleague Dr. Halid Aliev, who collected type material.

DIAGNOSIS. This species is closely related to *T. vignai* Brignoli, 1978 from Turkey and *T. longimana* Simon, 1898 from Georgia in having short relatively thin conductor and elongated tibiae of pedipalps. But it differs by having shorter embolus totally lying on conductor and by the shape of median and tibial apophyses. Epigyne of this species is rather similar to those in *T. talyshica* sp.n., although can be separated by the shape of median plate and relatively wider accessorial arms of receptacula.

DISTRIBUTION. Type locality only.

Tegenaria ismaillensis **sp. n.**
Figs 72–77, 106–108.

MATERIAL. Holotype ♀ (ZMMU) CN Azerbaijan, Ismailly Dist., Ismailly Res., 100–1200 m, 14.07.2001 (EFG). Paratypes: 1 ♀ (ZMMU) CN Azerbaijan, Ismailly Dist., env. of Khanaya Vill., 700 m, 06.2002. (EFG); 1 ♀ (ZMT) same Dist., env. of Velyasin Vill., 27.06.2003 (H.Aliev & N.Snegovaya); 1 ♀ (ZMMU) NW Azerbaijan, Gakh Dist., env. of Gashkachai Vill., 750 m, 30.06.1977 (PMD); 1 ♀ (ZMMU) NW Azerbaijan, Gakh Dist., env. of Gakh Town, 25.06.1977 (PMD).

DESCRIPTION. Female. Body 7.20 long. Carapace: 3.60 long, 2.70 wide, yellow with thin dark gray margin and clear black radial stripes. Anterior radial stripes continue to AME. Black lateral stripes on cephalic part reach PLE. Sternum with clear general pattern. Labium brown, maxillae yellow, chelicerae reddish-brown. Legs yellow with gray annulations on femora. Abdomen with pattern of gray and pale yellow markings. Spinnerets yellow. Epigyne as in Figs 72–77, 106–108, without distinct opening, furrow like openings are almost parallel and spaced by epigynal outgrowth. Vulva C-shaped, upper arm almost round and smaller than basal arm. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	4.10	1.40	3.90	4.15	2.10	15.65
II	3.95	1.30	3.45	3.75	1.85	14.30
III	3.65	1.25	3.05	3.80	1.75	13.50
IV	4.60	1.25	4.15	5.10	1.85	16.95

ETYMOLOGY. The name refers to the type locality of type species – Ismailly Reserve.

DIAGNOSIS. By the shape of copulatory organs this species is similar to *T. zagatalensis* sp.n. but can be easily separated by parallel copulatory opening, outgrown median part of epigyne, and different shape of spermathecae's arms.

DISTRIBUTION. Northern Azerbaijan.

COMMENTS. We tentatively place this species into *Tegenaria* because its females have relatively simple conformation of spermatecae like in T. *domestica,* generotype of and other species of *Tegenaria s. stricto*.

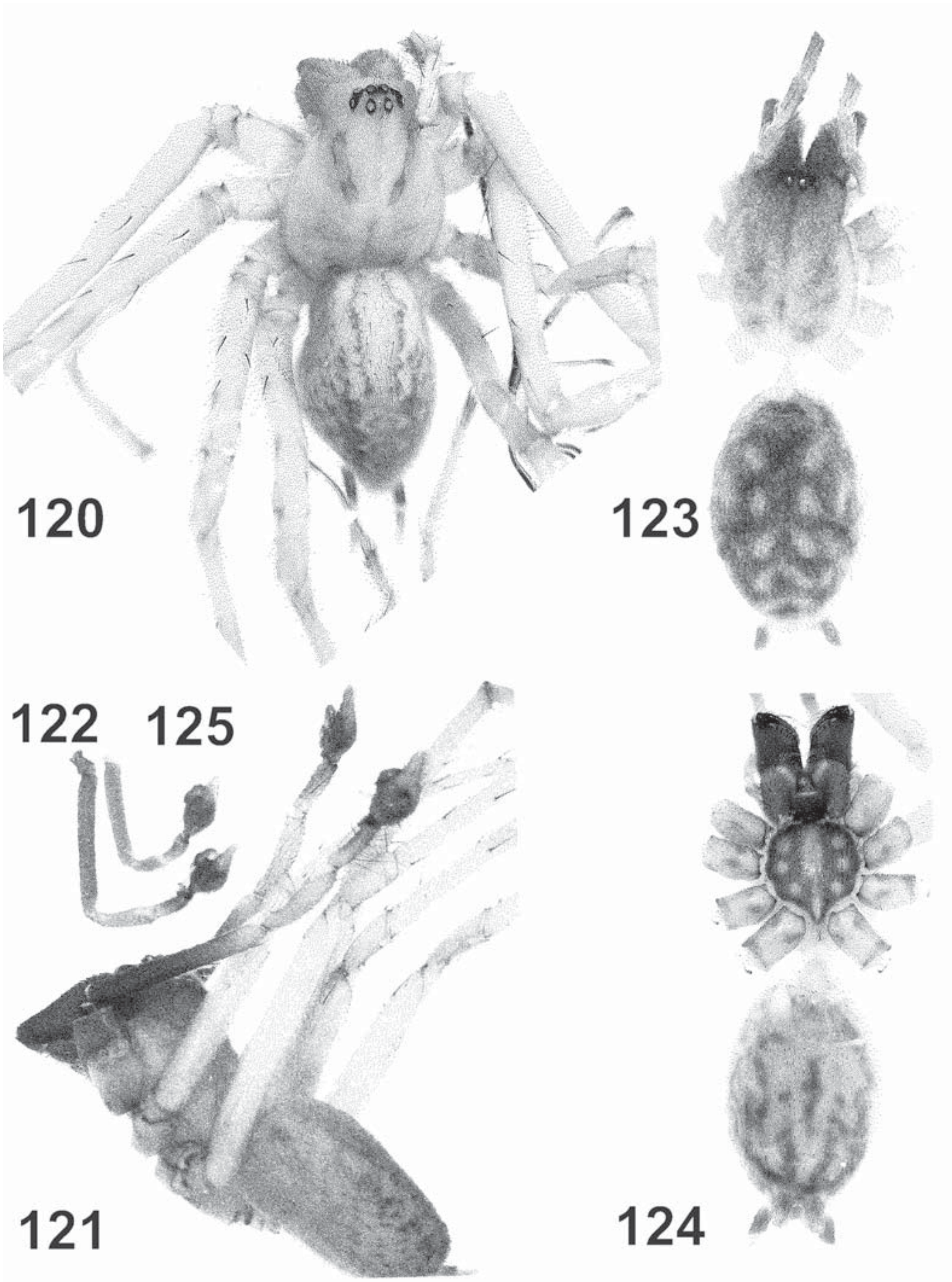
Tegenaria talyshica **sp. n.**
Figs 93–95.

MATERIAL. Holotype ♀ (ZMMU) SE Azerbaijan, Lerik Dist., env. of Lyalyakeran Vill., 1600 m, 23.08.1995 (EFG).

DESCRIPTION. Female. Body 8.50 long. Carapace: 3.75 long, 2.50 wide, dark yellow with thin gray margin and two obscure wide light gray median bands and obscure radial stripes within bands. Sternum yellow with four dark spots in center (reduced general pattern). Labium and maxillae light brown. Chelicerae dark brown. Legs yellow with gray annulations on femora and obscure darkenings on tibiae. Abdomen with pattern of gray and pale markings. Basal segment of posterior spinnerets gray. Other spinnerets pale. Epigyne as in Figs 93–95, without fovea, copulatory openings poorly distinct, covered with dense hairs. Vulva simple, with round receptacula and small accessorial inner arm; inner arm twice thinner than diameter of receptacula. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	5.05	1.45	4.80	5.45	2.50	19.25
II	4.40	1.30	3.95	4.30	2.05	16.00
III	4.00	1.20	3.25	4.10	1.75	14.30
IV	5.15	1.25	4.65	5.65	2.15	18.85

ETYMOLOGY. The name refers to the distribution of type species in Azerbaijan — Talysh mountains.



Figs 120–125. General appearance of the body and male palps of *Malthonica lenkoranica* sp.n (121), *M. lyncea* (Brignoli) (122, from Nakhchevan; 123, from Ismailly) and *M. pseudolyncea* sp.n. (125): 120, 123 — dorsal view; 121 — lateral view; 122, 125 — palp, retrolateral view; 124 — ventral view. 120, 121 — ♂; 123, 124 — ♀.

Рис. 120–125. Внешний вид и пальпа ♂ *Malthonica lenkoranica* sp.n. (121), *M. lyncea* (Brignoli) (122 из Нахичивани; 123 из Исмаиллы) и *M. pseudolyncea* sp.n. (125): 120, 123 — сверху; 121 — сбоку; 122, 125 — пальпа, сбоку-сзади; 124 – снизу. 120, 121 — ♂; 123, 124 — ♀.

DIAGNOSIS. By the shape of epigyne and conformation of spermathecae this species is most similar to *T. halidi* sp. n. but differs by having thinner and narrower posterior plate of epigyne and relatively thinner accessorial arms of spermathecae.

DISTRIBUTION. Type locality only.

Tegenaria zagatalensis **sp. n.**

Figs 78–81.

MATERIAL. Holotype ♀ (ZMMU) NW Azerbaijan, Zagatala Dist., Zagatala Reserve, 24.06.2003 (H.Aliev & N.Snegovaya).

DESCRIPTION. Female. Body 5.35 long. Carapace: 2.25 long, 1.75 wide, yellow with thin dark gray margin and dark gray radial stripes with light gray darkenings between them. Cephalic part with four lateral stripes; two reach PME while other two reach PLE. Sternum with clear general pattern. Labium grayish-yellow, maxillae yellow, chelicerae dark yellow with gray spots. Legs yellow with gray annulations. Abdomen with pattern of gray and pale yellow markings. Spinnerets yellow. Epigyne as in Figs 78–81, without fovea; copulatory openings indistinct, epigynal plate in view from above with clearly visible nipple-shaped outgrowth; vulva with C-shaped broad receptacula, apical and basal arms subequal in size. Length of legs joints:

	femur	patella	tibia	metatarsus	tarsus	total
I	2.43	0.93	2.10	2.15	1.18	8.79
II	2.25	0.73	1.80	1.90	1.15	7.83
III	2.10	0.80	1.65	1.90	0.80	6.25
IV	2.60	0.80	2.15	2.68	1.03	9.26

ETYMOLOGY. The name refers to the type locality of the species — Zagatala Reserve.

DIAGNOSIS. This species is somewhat similar to *T. ismaillensis* sp. n. but can be easily separated by the shape of epigyne openings, not outstanding epigynal plate and almost equal arms of spermatheca.

COMMENTS. Because of its similarity to *T. ismaillensis* sp.n. characterized by simple conformation of spermateca we tentatively place this species to the genus *Tegenaria* (see comments under *T. ismaillensis* sp.n.).

Conclusions

Altogether, 19 species from 5 genera of agelenids have been revealed in Azerbaijan during present study. Of 11 species reported in previous works, only 4 have been confirmed in this study: *Agelena labyrinthica, A. orientalis, Lycosoides lehtineni* and *Tegenaria domestica*. Records of *Agelena gracilens, Agelescape affinis* and *Tegenaria picta* by Dunin [1989] and Guseinov [1999] are surely erroneous (material examined, see above). Atakishiev's [1969] record of *A. gracilens* also seems doubtful, because relatively good drawings of copulatory organs of this species [Loksa, 1969; Miller, 1971; Blauwe, 1980] have appeared after his publication. Most of Dunin's determinations of *Tegenaria* species seem to be very suspicious. Examination of Dunin's collection has shown that except for *T. domestica* which he mostly identified correctly he actually dealt with two species *M. pseudolyncea* sp.n. and *T. ismaillensis* sp.n.. However, he determined these species under different names including *T. agrestis*, *T. campestris* C.L. Koch, 1834*, T. pagana* C.L. Koch, 1840, *T. ferruginea* (Panzer, 1804)*, Tegenaria* sp. or even *T. domestica.* In many cases Dunin identifications of *Tegenaria* were based on juvenile specimens which also highly likely belong to two above mentioned species. Thus it could be concluded that Dunin's identification of *Tegenaria* is not competent and should not be considered seriously.

Apparently Dunin's (and also other investigators') mistakes in determination of Agelenidae are due to the high endemism of Azerbaijanian fauna. More than three quarters of species studied, including *Lycosoides lehtineni* described in a previous paper [Marusik & Guseinov 2003] have proved to be new to the science. Within the fauna of Azerbaijan such high level of endemism was observed also in the family Dysderidae [Dunin, 1992], while in most other large families of spiders endemism is relatively rare [e.g. Logunov & Guseinov, 2002; Marusik et al., 2003; Guseinov et al., in prep.]. However the endemism of Azerbaijan fauna can not be correctly assessed without investigation of other Caucasian countries (Armenia, Georgia, Russia) as well as adjacent areas (Iran, Turkey) which remain to be poorly explored in respect to agelenid spiders.

In comparison to well studied areas such as Germany (13 species), Switzerland (16), Austria (12), Belgium (13), Netherland (11) [Blick et al., 2002], Czech Republick (10 [Buchar & Růžička, 2003]), Hungary (11 [Samu & Szinetár, 1999]), Sicily (15 [Messina et al., 2004]), Slovakia (14 [Gajdoš et al., 1999]), Serbia (16 [Deltshev et al., 2003]) fauna of Azerbaijan is more diverse. By number of species it is close to south European countries such as Romania (17 [Weiss & Urák, 2000]) and Portugal (20 [Cardoso, 2004] and Israel (19 [Levy, 1996]) and relatively more poor than Bulgaria (29 [Detshev & Blagoev, 2001]). Level of endemism in European countries is much lower than in Azerbaijan.

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